The Monetary Policy and The Exchange Rate Policy in China

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REFERENCE

The People's Bank of China

1.The People's Bank of China

1.1 The history of The People's Bank of China

The People's Bank of China, established on 1st December 1948, is based on theassociation of the China North Bank, the Narth Sea Bank and the Northwest Farmer bank.

In the September 1983, the People's Bank of China was decided to exercise the functions of a central bank by the Chinese State Council .

The Law of China determined the People's Bank of China as the Central Bank of China on the Third Plenary Session of the Eighth National People's Congress on 18th March 1995.

In the March of 2003, the reformation of the organizational structure,which separated oversight responsibilities of the People's Bank of China banking financial institutions, asset management companies, unit trust and other deposits financial institutions, was carried out during the Tenth National People's Congress.At the same time, the China Banking Regulatory Commission,regulating financial sector,was stabalished,

1.2The role of The People's Bank of China

On 27th December, 2003, the law about the China People's Bank was revised during the sixth meeting of the Standing Committee of the Tenth National People's Congress, which reinforce the role of decision in the implementation of monetary policy, maintaining the overall financial stability and the provision of financial services

The main function of The People's Bank of China
:

(1) the drafting and implementation of relevant laws and regulations to play , regulations and related functions ;

(2) develop and implement monetary policy in accordance with law ;

(3) the issuance of RMB and manage the flow ;

(4) regulate the financial markets, including the interbank lending market , inter-bank bond market, foreign exchange market and the gold market ;

(5) to prevent and mitigate systemic financial risks and maintain financial stability
;

(6) maintained at a reasonable and balanced level of the RMB exchange rate ; hold and manage foreign exchange and gold reserves ;

(7) treasury manager fiscal agent ;

(8) to make the payment and settlement rules in collaboration with relevant

departments to ensure the normal operation of payment and settlement systems ;
(9) the financial sector to provide guidance for anti-money laundering monitoring of suspicious financial flows and money laundering activities ;

(10) the development of statistical and systems for the financial industry responsible for the integration of financial and statistical data analysis and forecasting of economic behavior Coordinating financial risk financial instruments and disposal options in monetary instruments; Coordinating financial risk financial instruments and disposal options in monetary instruments;

(11) manage the credit industry in China , promote the establishment of a credit information system ;

(12) the ability to participate in international financial activities in the central bank ;

(13) engaged in financial activities consistent with the relevant provisions ;

(14) perform such other functions as the State Council(Law of the PRC on the People's Bank of China 2003).

1.3Internal departments①

1General office

Organization and coordination of the People's Bank of China Head Office daily work.

Undertake the drafting of relevant documents, organize important meetings, telegrams processing, secretarial services, comprehensive information, news releases, archives, letters, confidential work.

2Law Department

The draft laws, regulations drafted with the central bank's financial duties; Drafting, review the financial regulations and responsibilities in relation to the central bank;

The People's Bank of China issued the contractor to explain the work of the orders and regulations; carry out financial and legal advisory services, financial and legal affairs and finance-related legal publicity and education work;

Undertake administrative appeals and responding to the work;

Providing legal advice to the international financial activities to participate in The People's Bank of China, issued a legal certificate.

3 Monetary Policy Department

Research, the formulation of monetary policy and implement programs;

Intermediate target of monetary policy formulation and implementation of the organization; study presents various monetary policy tools to select and organize the implementation;

Formulate and implement the foreign currency deposit reserve policy, the foreign currency interest rate policy, refinancing and rediscount policy and related management practices;

The proposed central bank open market operations in foreign currencies and implement programs and procedures;

Formulate monetary policy strategy, research to improve the monetary policy framework of policy measures, a sound monetary policy system;

Undertake relevant work coordination mechanisms of macro-control departments.

①Source: “Management and Organizational Structure”,http://www.pbc.gov.cn/publish/english/969/index.html

4 Monetary Policy Division II

Research, develop further improve the RMB exchange rate formation mechanism reform program;

Track and monitor changes in the global financial market rates; research, monitoring international capital flows;

Research on the use of the offshore renminbi issue; elaboration of RMB cross-border business-related systems, methods and organization;

Formulation with the economy the monetary authorities to carry out monetary cooperation programs and coordinate their implementation;

Assist the parties concerned RMB capital account convertibility policy recommendations;

Follow-up study analyzed major national monetary policy conditions, and its influence; contractors daily work Monetary Policy Committee of the Chinese People's Bank.

5 Financial Markets Division

Elaboration of inter-bank lending market, inter-bank bond market, foreign exchange market and gold market regulations;

Undertake relevant financial institutions in these markets and market access approval quit working;

Analysis of the impact of market instruments of monetary policy and financial stability, and make relevant policy recommendations;

Monitoring and analysis of the development of financial markets to prevent cross-market risk. According to the country's economic and social development policy and industrial policy, research, formulation and implementation of macro credit policy guidance.

6Financial Stability Board

Research banking, securities and insurance industries coordinated development, together with relevant departments comprehensive financial sector reform and development planning studies; assess the risk of the financial system, the implementation of research to prevent and resolve systemic financial risk policies

and measures;
Coordinating financial risk financial instruments and disposal options in monetary instruments;
Implementation of the use of the Central Bank of the final payment check means agencies and organizations involved in the liquidation or reorganization of the market withdrawal of work; responsible for financial holding companies and financial instruments to monitor the cross;
Contractors involved in the use of demonstration and review of final payment means the central bank financial sector restructuring plan;
Disposal or management of financial risk to the financial restructuring of the Central Bank of the final payment means replacement of assets.
7Survey and Statistics Department

Responsible for collecting, compiling and analyzing financial data and other economic information; developing the overall statistics system for the financial sector, and coordinating financial statistics work; compiling and publishing data on money supply and monetary policy; participating in the design of accounting system related to financial and monetary statistics; collecting and compiling the balance sheets and income statements of the financial institutions borrowing from the central bank; responding to inquiries about financial information.
8Accounting and Finance

Responsible for examining the accounting standard and system of the banking sector, and assisting relevant authorities in improving the accounting system of the commercial banks and the central bank; coordinating the implementation of PBC's financial accounting system; preparing and examining the budget and final accounts of the PBC system; preparing PBC's financial statement including balance sheet and income statement; managing the financial affairs, capital construction, fixed assets and government procurement projects of the PBC.
9 Payment and Settlement Division

Responsible for the design of the financial accounting system of the PBC and the construction of China National Advanced Payment System (CNAPS);

establishing payment and settlement rules as well as regulations on bills exchange and bank account management jointly with related government departments; supervising innovations in payment instruments; drafting administrative rules for bank card settlement business; and establishing reporting systems for large-value and suspicious RMB payment transactions.

10 Technology Department

Responsible for technological services in the planning, design, construction and maintenance of the PBC's office automation system and business operation system; organizing and administering technology development throughout the PBC system; establishing technical standards for bank card business and coordinating nation-wide bank card acceptance; and involving in related financial technology affairs in accordance with relevant rules and regulations.

11 Currency Gold and Silver Bureau

Preparation of the relevant currency management approach;

Bear RMB management and anti-counterfeit currency;

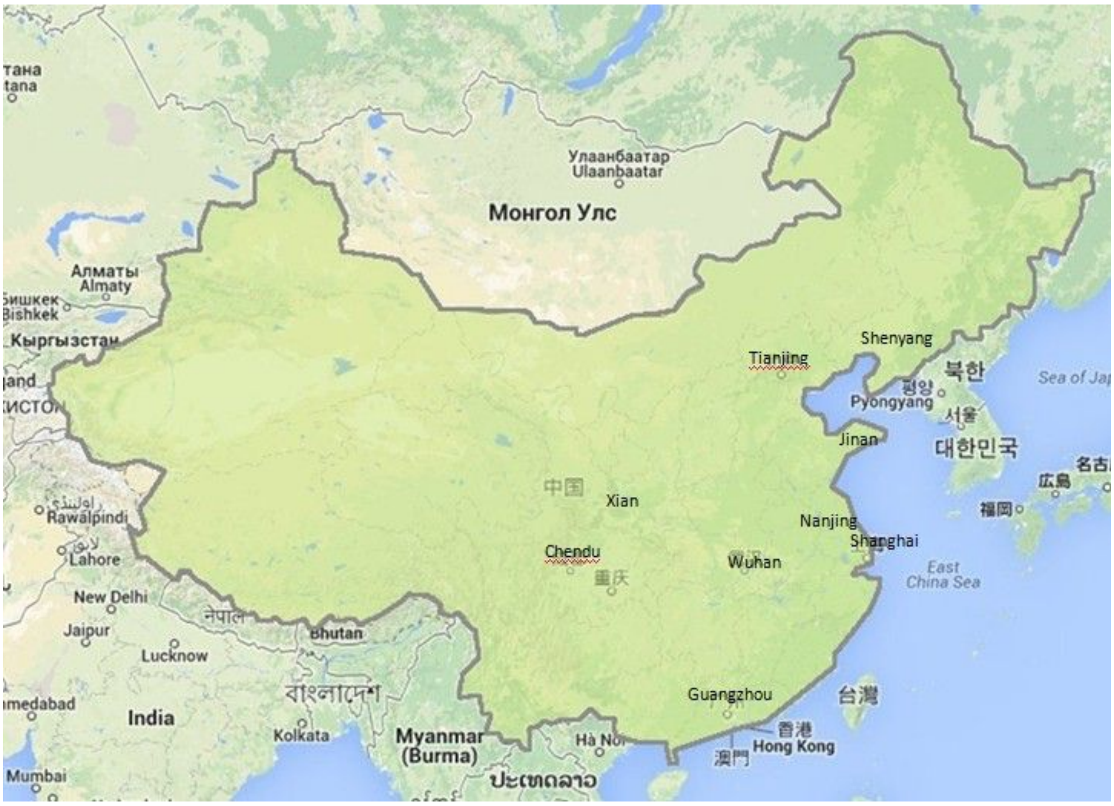
Arrangements for the production of banknotes and coins, storage, transportation, storage, updating and destruction; manage cash delivery, return and safety of library funds;

Management of national gold reserves. State Department anti-counterfeit currency bear joint working meeting daily work.

12.State Treasury Bureau

Responsible for managing the State treasury, establishing and enforcing the administrative rules for management of the state treasury; maintaining single treasury account for the fiscal departments; conducting statistical analysis on revenues and expenditures of the treasury fund; reporting on a regular basis of revenues and expenditures and the cash balance of the single treasury account to the fiscal department at the same level, and verifying with it the balance of the single treasury account; supervising the collection, allocation and reimbursement of the budget fund and maintaining the safety and integrity of the state treasury; and acting as fiscal agent to issue and redeem treasury bonds and other government securities to financial institutions.

The People's Bank of China set up in Tianjin, Shenyang, Shanghai, Nanjing, Jinan, Wuhan, Guangzhou, Chengdu, Xi'an, nine branches, also established The Business Management Department and The Chongqing Business Management Department, a total of 328 central sub-branchs, 1,797 sub-branchs (Chen X.L.,2005).



Figure：nine branches of The People's Bank of China

Source：http://www.rpgwebgame.com

Decision-maker is the Council of People's Bank of China . After the " The People's Bank of China Law" enacted , The People's Bank of China governor responsible for the implementation of the system . President exercised the highest decision-making authority . To help correct formulation of monetary policy, the establishment of The People's Bank of China Monetary Policy Committee. Monetary Policy Committee to focus on the relevant ministries and the bankers and financial experts . They study monetary policy together(Zhang Q,2003).

A People's Bank of China governor candidates , according to the nomination Premier decided by the National People's Congress . National People's Congress in session, the Standing Committee of the National People's Congress decided that the appointment and dismissal of the Chairman of People's Republic of China . People's Bank of China Deputy Governor of the State Council shall appoint and dismiss the Prime Minister .

(2) Monetary Policy Committee of the People's Bank of China's monetary policy advisory deliberative bodies , the monetary policy committee comprising of the following units : the People's Bank of China ; The People's Bank of China Deputy Governor duo ; National Planning Commission deputy director of a person ; country deputy director of the economic and Trade Commission of a person ; deputy Minister of Finance of a person ; chairman of China securities Regulatory Commission ; director of the State administration of Foreign Exchange two state-owned commercial bank governor ; financial experts alone.

2 The Fiscal policy of China

Fiscal policy and monetary policy are two important government macroeconomic regulation measures, which have great significance and role in maintaining healthy and stable development of the national economy, promoting national economic restructuring and adjusting the total supply and total demand social aspects.

Fiscal policy means that to adjust the revenue and expenditure of the scale and balance of payments, the government of a country take the guiding principles and measures to achieve certain macroeconomic objectives and, which runs through the whole process of financial work, reflecting in the income, expenditure, budget balance and national debt and other aspects.

Types of fiscal policy and monetary policy

According to fiscal policy in the regulation of the different functions of the total national economy, fiscal policy can be divided into an expansionary fiscal policy, tight fiscal policy and a neutral fiscal policy (Yan Q.Y.,2008).

1 Expansionary fiscal policy refers to a policy action to increase and stimulate aggregate demand through changes in government fiscal balance scale, mainly by reducing taxes, increase spending ways.

2 Tight fiscal policy is the government policy to reduce and suppress a change in the behavior of aggregate demand through fiscal balance scale.

3 Neutral fiscal policy refers to government fiscal receipts and payments of the total social demand for maintaining a neutral, neither produce expansionary effect, nor produce a tightening effect, requiring the implementation of a neutral fiscal policy to maintain fiscal balance expenditure and income.

Monetary policy is that in order to achieve its stated target of macroeconomic, the central bank makes adjustments and takes the control of the money supply and interest rates affecting the macroeconomic policy. It includes the target of monetary policy, the measure of achieving monetary policy objectives, and content effects of monetary policy in three areas. Central banks are the national authority to develop and implement monetary policy.

Fiscal policy tools

(1) Tax revenues automatically.

Taxes are an important form of political power participating in the national distribution of the social product, with gratuitous sex, mandatory, fixed, authority and so on. Fiscal revenue target is the way to achieve flexibility in the use of various elements of the tax system. a) Appropriate tax and tariff setting form a rational tax system, in order to determine the scope and level of the tax adjustment, making all kinds of taxes each other. b) Determine the tax rate and clarify the number boundaries of the tax adjustment, which is the core of tax plays a leading role in a policy instrument. c) Provide the necessary tax breaks and bonuses.

Thus, the tax rates and changes in taxes can be adjusted by adjusting the industrial structure and optimizing the allocation of resources. An equitable distribution can be achieved by adjusting personal income and wealth through progressive personal income tax, property tax, etc.

(2) Government Spending

Government spending is the general expenditures (or current spending) of the government to meet public needs. It includes the purchase and transfer expenditure and the impact of these two types of spending on the national economy which have different impacts on the national economy.

Purchase expenditures are judged from the end-use perspective. Administrative expenses, defense spending, health, and other cultural and educational department spending are essential to social welfare spending undertakings. The investment capabilities and the direction of the government play a key role in the adjustment of economic structure and economic development.

(3) Bonds

National debt is not only a form of mobilization of financial resources in accordance with the principles of credit paid, but also an important means of achieving macro-regulation and fiscal policy.

So how does China use the fiscal policy?

Two mainly factors would be considered here, which are Government Spending(G) and automatically Tax revenues (T). For easy to use, China is imagined to be a closed country without exports(X) or imports(M).

A concept of budget balance would be introduced here. And a simple formula could be build:

$$T\text{-}G = tY - G \quad ①$$

① " Government Spending and its Financing" ,PG5.

http://eml.berkeley.edu/users/webfac/wood/e100b_f08/fiscalpart1.pdf

Where G (Government Spending), T (Tax revenues automatically) Y (GDP) t (Tax rate)

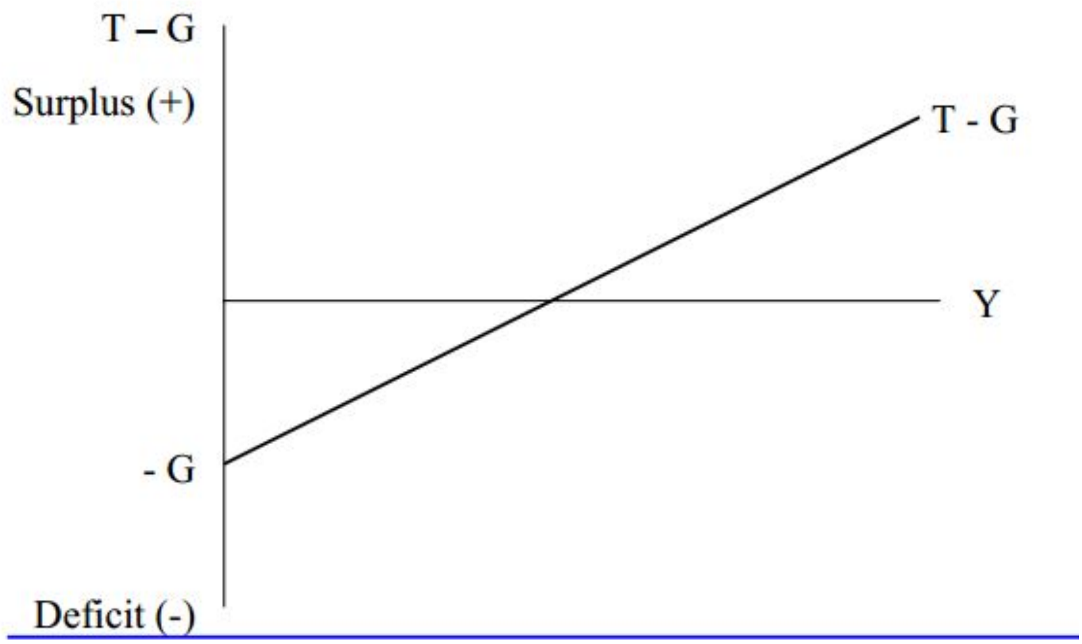


Figure: ***T-G***

Source: Government Spending and its Financing" ,PG6.

http://eml.berkeley.edu/users/webfac/wood/e100b_f08/fiscalpart1.pdf

Automatic stabilizers: Because of the existing of automatic stabilizers, the government budget balance will automatically fall and rise

We call this curve as BB Curve (Budget Balances).

If China government is unsatisfied with the BB curve, it could adjust G and t to obtain a new BB curve to make the government satisfy.

$\Delta BB = \Delta(T - G) = t * \Delta Y - G$

ΔBB is variation of BB

ΔY is variation of Y

China can change their fiscal policy.

Changes G from G to G'(Increases G)

Changes G from G to G" (Decreases G)

Changes t from t to t'(Decreases t)

Changes t from t to t"(Increases t)

So we can get change in the BB line.

- Changes G then get a parallel shift.
- Changes t then get a rotation.

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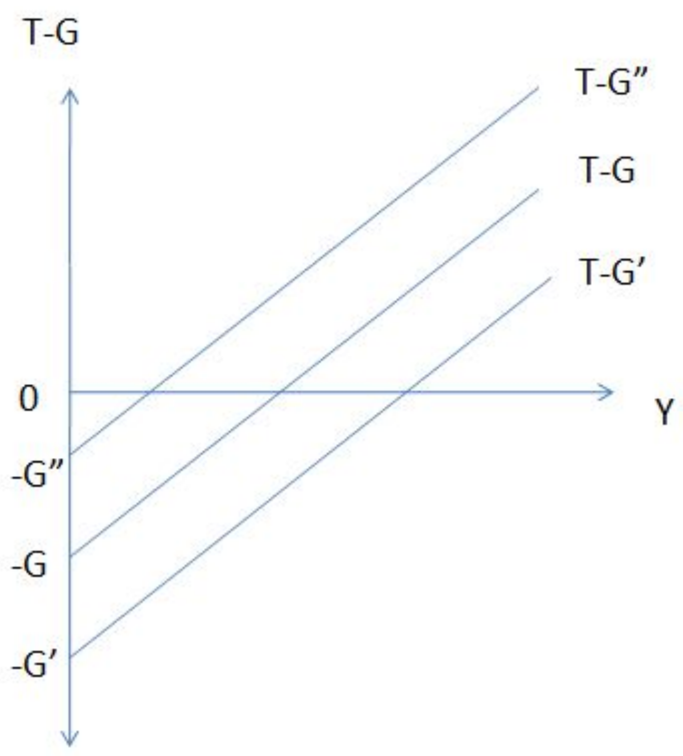
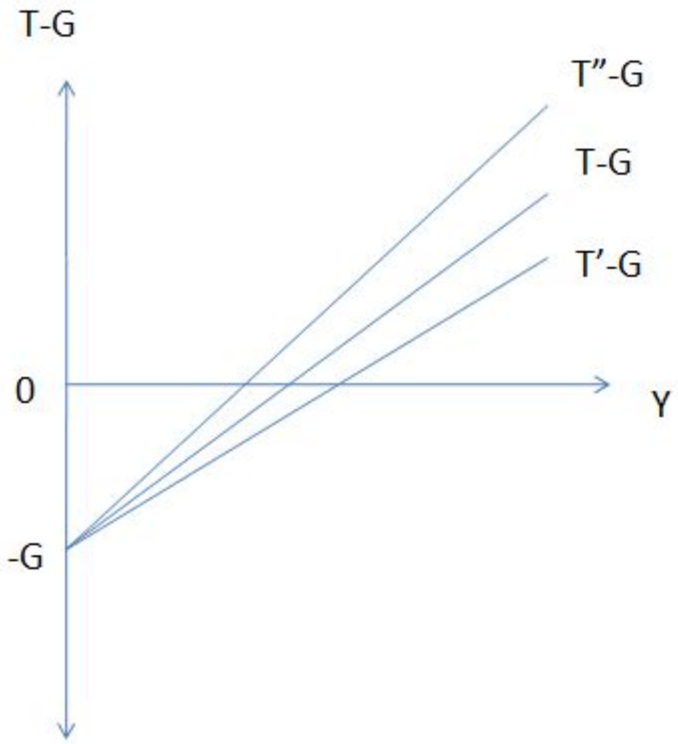


Changes G



Changes t

China could achieve their desired answer through control BB curve by adjusting t and G.

Budget Balance： The meaning of "deficit" differs from that of "debt", which is an accumulation of yearly deficits. Deficits occur when a government's expenditures exceed the revenue that it generates. The deficit can be measured with or without including the interest payments on the debt as expenditures .From :http://en.wikipedia.org/wiki/Budget_deficit

Automatic Stabilizers： In macroeconomics, automatic stabilizers describes how modern government budget policies, particularly income taxes and welfare spending, act to dampen fluctuations in real GDP.

The size of the government budget deficit tends to increase when a country enters a recession, which tends to keep national income higher by maintaining aggregate demand. There may also be a multiplier effect. This effect happens automatically depending on GDP and household income, without any explicit policy action by the government, and acts to reduce the severity of recessions. Similarly, the budget deficit tends to decrease during booms, which pulls back on aggregate demand. Therefore, automatic stabilizers tend to reduce the size of the fluctuations in a country's GDP. From :http://en.wikipedia.org/wiki/Automatic_stabilizer

3 The monetary policy of China

3.1 Monetary policy

Monetary policy instrument is a means to achieve the objectives of the central bank monetary policy. According to "Law of the PRC on the People's Bank of China" Article III, the ultimate goal of China's monetary policy is "to maintain a stable value of the currency and thereby promote economic growth." Monetary policy instrument consists of general instrument and selective instrument. General monetary policy instruments include open market operations, reserve deposits and rediscount; selective monetary policy instruments include loan size control, special deposits, and window guidance for financial firms. General monetary policy tools are mostly indirect control instruments, selective monetary policy instruments are mostly direct control tool. Long time in the past, China's monetary policy focused on direct regulation, i.e. take the credit scale, cash plan and other tools. After the bank canceled the loan size control in 1998, it mainly uses indirect monetary policy instruments to regulate the total money supply. At present, China's monetary policy instruments mainly include open market operations, reserve requirements, refinancing and rediscount interest rate policy, exchange rate policy and window guidance.

Objective of monetary policy is to maintain a stable value of the currency and thereby promote economic growth.

The People's Bank of China monetary policy tools include reserve requirement ratio, central bank base interest rate, rediscounting, central bank lending, open market operation and other policy instruments specified by the State Council(Song H.B,2009).

Monetary Policy Committee is composed of a province governor of People's Bank of China, two Vice Ministers and a Deputy Secretary-General. the State Council, a Vice Minister of the State Development and Reform Commission, a Vice Finance Minister， a Vice Minister of the State Administration of Foreign

Exchange, chairman of the China Banking Regulatory Commission, China Securities Regulatory Commission, Chairman of the China Insurance Regulatory Commission, the National Bureau of Statistics of the President, the Chairman of the Bank of China Association and experts from academia

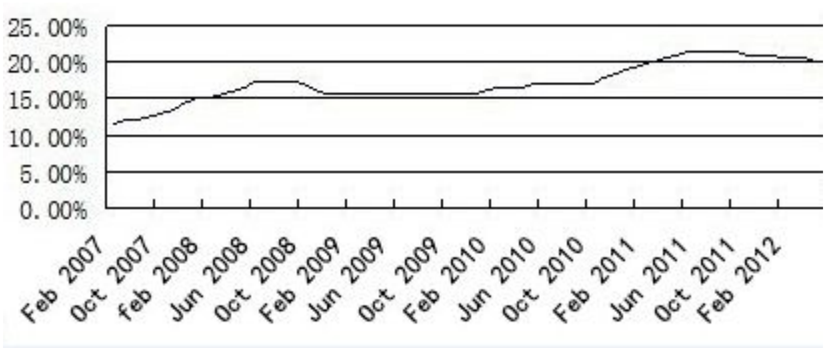
A.Open market operations of China

In most developed countries, open market operations of central bank is the main policy instrument to handle the monetary base and adjust the market liquidity. Securities and foreign exchange transactions carried out by the central bank and market counterparties and achieve monetary policy objectives. Chinese open market operations include two parts: RMB operations and foreign exchange operations. Open market operations of foreign exchange started in March 1994. The RMB open market operations resume trading on May 26, 1998, and gradually expand the scale. Since 1999, the rapid development of open market operations has now become one of the main tools of the People's Bank of China’s monetary policy in the daily operation. It has played an active effect in adjusting the level of liquidity in the banking system, guiding money market interest rates and promoting reasonable growth in money supply.

The People's Bank of China started establishing a primary dealer system of open market operations in 1998 It chose a number of large commercial banks as the open market bond trading business transaction object. In recent years, open market operations' primary dealer system has improved gradually. Management and adjustment mechanism of primary dealers’ related evaluation and information reporting system has established. The primary dealers’ institutional category also expanded from commercial banks to securities firms and other financial institutions.

B.Reserve requirement ratio

Reserve requirement refers to the funding that financial institutions need to prepare for customers’ deposit and withdrawals. The proportion, which the financial institutions are required to pay for the central bank, of deposit reserve in its total deposits is deposit reserve ratio. Reserve requirement system was established under the central banking system. The U.S. is the first country that put reserve requirement that commercial banks pay to the central bank into law. The initial role of the deposit reserve system is to ensure that the deposit payment and liquidation, and then gradually evolved into a tool of monetary policy. By adjusting the deposit reserve ratio, the central bank has impact of credit funding ability on financial institutions, thereby indirectly regulate the money supply.



Figure：Deposit reserve ratio

Source： bank of hexun

http://bank.hexun.com/2011-06-23/130820725.html

C.. Central bank lending

Central bank lending, refinancing for short, refers to the central bank lendings to financial institutions. It is one of the channels by which the central bank regulates the monetary base. Timely the central bank adjusts the total amount of the loan and the interest rate, throughputs base currency to promote the realization of the control objectives of monetary and credit aggregates and guide reasonable capital flows and the flow of credit.

Time	Current deposits	Fixed deposits					
		Three months	Six months	One year	Two years	Three years	Five years
1990.04.15	2.88	6.30	7.74	10.08	10.98	11.88	13.68
1990.08.21	2.16	4.32	6.48	8.64	9.36	10.08	11.52
1991.04.21	1.80	3.24	5.40	7.56	7.92	8.28	9.00
1993.05.15	2.16	4.86	7.20	9.18	9.90	10.80	12.06
1993.07.11	3.15	6.66	9.00	10.98	11.70	12.24	13.86
1996.05.01	2.97	4.86	7.20	9.18	9.90	10.80	12.06
1996.08.23	1.98	3.33	5.40	7.47	7.92	8.28	9.00
1997.10.23	1.71	2.88	4.14	5.67	5.94	6.21	6.66
1998.03.25	1.71	2.88	4.14	5.22	5.58	6.21	6.66
1998.07.01	1.44	2.79	3.96	4.77	4.86	4.95	5.22
1998.12.07	1.44	2.79	3.33	3.78	3.96	4.14	4.50
1999.06.10	0.99	1.98	2.16	2.25	2.43	2.70	2.88
2002.02.21	0.72	1.71	1.89	1.98	2.25	2.52	2.79
2004.10.29	0.72	1.71	2.07	2.25	2.70	3.24	3.60
2006.08.19	0.72	1.80	2.25	2.52	3.06	3.69	4.14
2007.03.18	0.72	1.98	2.43	2.79	3.33	3.96	4.41
2007.05.19	0.72	2.07	2.61	3.06	3.69	4.41	4.95
2007.07.21	0.81	2.34	2.88	3.33	3.96	4.68	5.22
2007.08.22	0.81	2.61	3.15	3.60	4.23	4.95	5.49
2007.09.15	0.81	2.88	3.42	3.87	4.50	5.22	5.76
2007.12.21	0.72	3.33	3.78	4.14	4.68	5.40	5.85
2008.10.09	0.72	3.15	3.51	3.87	4.41	5.13	5.58
2008.10.30	0.72	2.88	3.24	3.60	4.14	4.77	5.13
2008.11.27	0.36	1.98	2.25	2.52	3.06	3.60	3.87
2008.12.23	0.36	1.71	1.98	2.25	2.79	3.33	3.60
2010.10.20	0.36	1.91	2.20	2.50	3.25	3.85	4.20
2010.12.26	0.36	2.25	2.50	2.75	3.55	4.15	4.55
2011.02.09	0.40	2.60	2.80	3.00	3.90	4.50	5.00
2011.04.06	0.50	2.85	3.05	3.25	4.15	4.75	5.25
2011.07.07	0.50	3.10	3.30	3.50	4.40	5.00	5.50
2012.06.08	0.40	2.85	3.05	3.25	4.10	4.65	5.10
2012.07.06	0.35	2.60	2.80	3.00	3.75	4.25	4.75

Figure： Financial institutions RMB benchmark lending rate

Source: “RMB benchmark lending rate of China”.

http://blog.163.com/yxd_951001/blog/static/28991235200801812415775/

D.Central bank base interest rate

Interest rate policy is not only an important component of China's monetary policy, but also one of the main means of monetary policy implementation.

Considering of the implement of monetary policy, People's Bank of China timely uses interest rate instruments and adjusts the level of interest rates and interest rate structure, thereby affects the social capital supply and demand situation to achieve the stated objective of monetary policy.

Currently, the People's Bank of China is using the interest rate instruments as followed:

1. adjust the central bank benchmark interest rate, including: refinancing rate, refers to The People's Bank of China issued refinancing rate used by financial institutions; rediscount rate, which refers to financial institutions discounted bills held by The People's Bank of China to handle rediscount rate used; deposit reserve rate, the rate that the People's Bank of China's financial institutions, statutory reserve deposit payment; excess reserve rate, the central bank deposit interest rates of financial institutions in excess of the statutory reserve deposit reserve levels partially paid.

2. adjust the statutory deposit and lending rates of financial institutions.

3.set the floating range of deposit and lending rates of financial institutions.

4. make relevant policies on various interest rate structure and level adjustments etc.

In recent years, The People's Bank of China stepped up the use of interest rate instruments. The interest rate adjustments become frequent yearly, interest rate is more flexible while regulating mechanisms are maturing day after day. With the gradual advance interest rate reform as one of the main means of monetary policy interest rate policy will be gradually transformed from direct control to indirect control of interest rates. Interest rates, as an important economic lever, play a more important role in the national macro-control system.

E. Standing Lending Facility, SLF

Judging from past experience, the central bank usually uses the two categories of monetary policy tools, standing lending facilities and open market operations, to manage liquidity. Convenient standing borrowing's main features are: firstly, initiated by a financial institution, the financial institution may apply according to their convenience standing lending liquidity needs; secondly convenient standing borrowing is "one to one" deal between the central bank and financial institutions; thirdly convenient standing lending counterparties coverage, usually covered deposits with financial institutions.

Time	Standing Lending Facility，SLF (Unit: 100 million)
10 / 2013	3010
11 / 2013	2610
12 / 2013	1000

Source：Data from The People's Bank of China，

http://www.ecitic.com/cjzx/whsc/hsyw/2014/02/99240.shtml

Most of the world's central banks have loan facilities, like monetary policy tool, but with different names, such as the Fed's discount window (Discount Window), the ECB's marginal lending convenience (Marginal Lending Facility), the Bank of England operational standing convenience (Operational standing Facility), supplemental Loan Bank of Japan's convenience (Complementary Lending Facility), the Bank of Canada's standing liquidity facility (Standing Liquidity Facility), standing loans MAS convenience (Standing Loan Facility), and emerging market economies in central Bank of Russia the secured loan (Secured Loans), the marginal standing convenience reserve Bank of India (Marginal Standing Facility), the Bank of Korea's liquidity adjustment Facility (Liquidity Adjustment Loans), Malaysia's central bank mortgages (Collateralized Lending) etc..

According to the international experience, the People's Bank of China set standing loan facilities (Standing Lending Facility, SLF) in early 2013. Standing loan facilities are the People's Bank of China normal liquidity supply channels. The main function is to satisfy the long period of substantial liquidity needs of financial institution. Its main targets are the policy banks and national commercial banks for a period of 1-3 months. It is made according to the monetary policy interest rates and need of determining market interest rates. Standing lending facility lends convenient payment by means of mortgage. The eligible collateral includes high credit rating bonds asset class and quality of credit assets(Bernanke B，Gertler M． ,2001).

3.2 The Crisis over the last 10 years

China's economic development is relatively stable over the past decade, in general did not experience much of twists, but the snow disaster in southern appeared in 2008. The earthquake of Wenchuan on 12 May. Then, in 2009 U.S. had financial crisis. We first review the reasons arising under the 2008 financial crisis in the United States

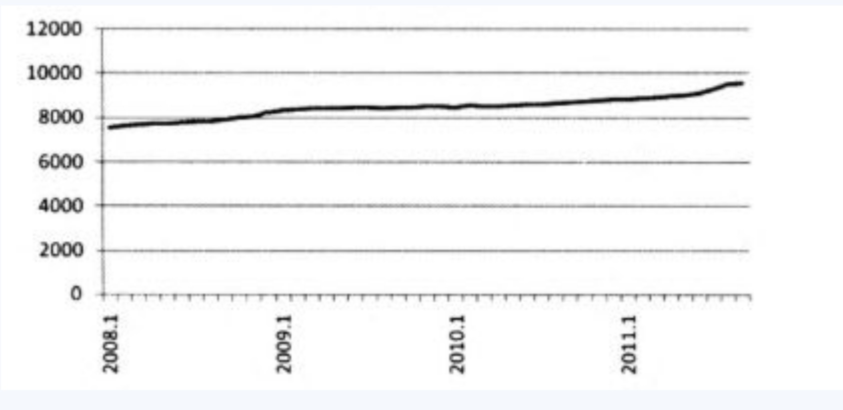
2008 outbreak of the financial crisis is rooted in two main aspects: ① the U.S. household savings rate is declining, while the consumption and the growth of economic development. U.S. residents when high debt, real estate market prone to bubbles, the housing market adjustment in the offing. Leading to superior grade default rate and floating-rate subprime mortgage loans increased significantly, inability loan more and more people, resulting in dysfunctional financial institutions, the subprime crisis intensified got out of hand; ② American inadequate supervision of financial innovation . Expansion of American-style consumption patterns are not sustainable in such assets, if there are problems it will bring this economic chain reaction, in the absence of supervision of financial innovations fueled the subprime crisis happened, and in a variety of factors under the stimulus, the subprime crisis continues to spread, eventually evolved into a global financial crisis.。

On 25 Nov. 2008 the Federal Reserve announced the purchase of billions of dollars worth of government-backed enterprises (Fannie Mae, Freddie Mac, and the Federal Home Loan Bank) direct debt related to real estate. Then the United States decided to implement quantitative easing.

The so-called quantitative easing refers to quantify certain amount of money to expand the issue to reduce the pressure of bank reserves injection.

It mainly refers that after the central bank carry out the zero or near-zero interest rate policy, through the purchase of bonds and other long-term debt and the increase of the supply of base money, a lot of liquidity into the market to do intervention. It is different from leverage and interest rate and other traditional tools. Quantitative easing is regarded as an unconventional tool. This policy provides support for the United States to expand fiscal spending, deficit policy to maintain, but also led to the weak dollar, a sharp rise in global commodity prices, and the market value of the foreign debt of the United States and therefore greatly diminished.

The U.S. supplies the quantitative easing by expanding the base money, but essentially a global levy seignior age. This policy not only provides support for the United States to expand fiscal spending, maintain deficit policy, but also led to the weak dollar, a sharp rise in global commodity prices, the value of the foreign market debt of the United States and therefore greatly diminished



Figure：1/ 2008~1/ 2011,money supply of U.S.

Source：He zhengquan，Impact of U.S. “quantitative easing monetary policy analysis on Chinese inflation",【J】 Finance Science ,2012/10

The first round began in November 2008, ended in March 2010. The total invested scale was about $ 1.725 trillion, which includes $ 1.25 trillion of mortgage-backed securities, $ 175 billion of agency securities and $ 300 billion of long-term debt. More than 3000 billion dollars are in long-term bonds.

Let's take a simply look at the IS-LM model.

According to the IS curve point from the expenditure approach, GDP is equal to consumption of residents plus business investment plus government purchases. So we get :

$$Y = C + I + G$$

From the point of view of income method, income is equal to consumption plus savings plus government taxes. I.e., $Y = C + S + T$ So, we get

$$C + I + G = C + S + T$$

In an open economy, $I + G + (X-M) = S + T$,

$I + G + X = S + T + M$

X: export S: Savings T: Tax M: Imported G: government spending I: Investment Y: income

Where $C = C0 + C1 * Yd$

C0: autonomous consumption ,consumer is not Since change in income levels

C1: Marginal propensity to consume (MPC), increased consumption and increased revenue ratio

Yd: Disposable income $Yd=Y-T$

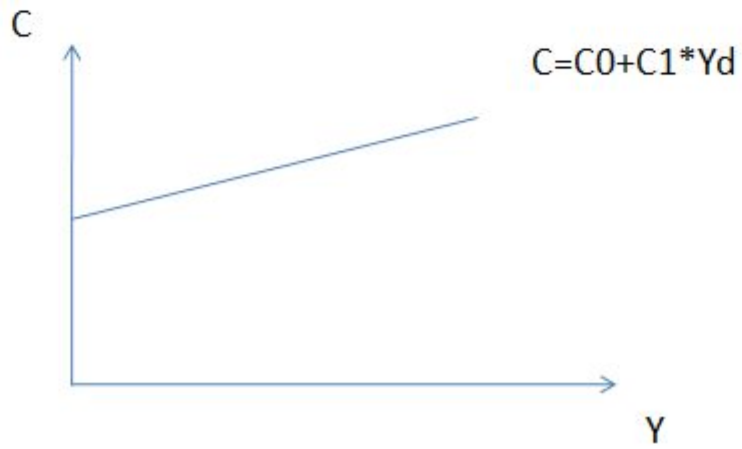


Figure: marginal propensity to consume(MPC)

$$Y= C0+C1Yd+I+G$$

$$Y= C0+C1(Y-T)+I+G$$

$$Y(1-C1) = C0-C1*T+I+G$$

$$Y= (C0-C1*T+I+G)/(1-C1)$$

the marginal propensity to consume (MPC) is a metric that quantifies induced consumption, the concept that the increase in personal consumer spending (consumption) occurs with an increase in disposable income (income after taxes and transfers). The proportion of disposable income which individuals spend on consumption is known as propensity to consume. MPC is the proportion of additional income that an individual consumes. For example, if a household earns one extra dollar of disposable income, and the marginal propensity to consume is 0.65, then of that dollar, the household will spend 65 cents and save 35 cents.

LM curve represents the trajectory of various combinations of income and interest points in the currency market when the money supply equals money demand. Mathematical expression for the LM curve is
m = ky-hr

This formula can be expressed as the relationship between income y and interest rate r when satisfy the equilibrium conditions of the money market. The graphics of this relationship is called the LM curve. Also, at any point of this line represents a combination of a certain interest rate and income, in this combination, money demand and supply are equal, that the money market is balanced.

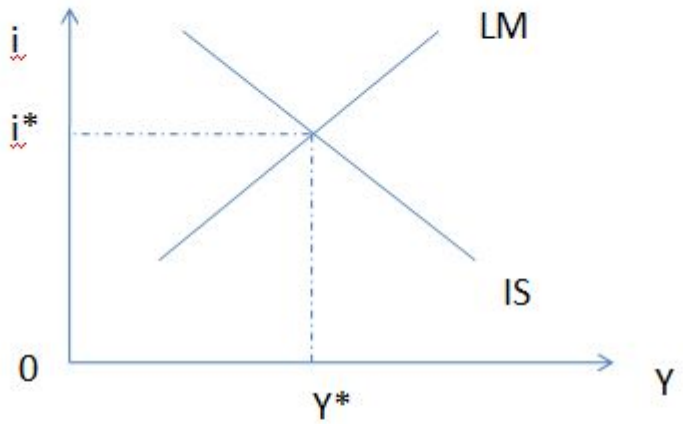


Figure:IS-LM model

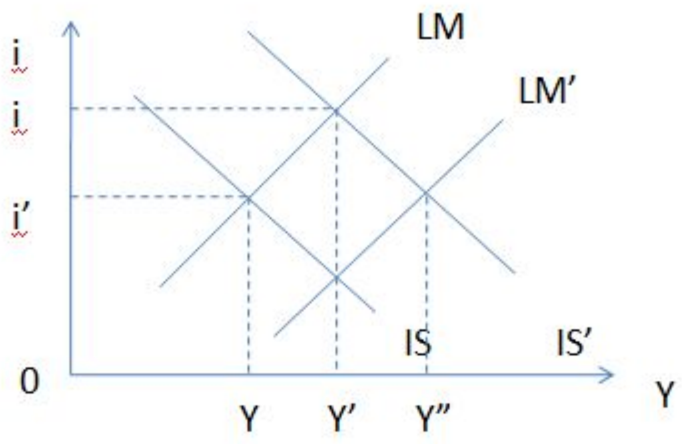


Figure:IS-LM of China 2008

First let's look at the fiscal policy of the Chinese government. Fiscal policy includes fiscal spending and revenue. Mainly through fiscal spending, it expanded public investment, on strengthening key areas. For example, on 9 October 2008, the Standing Committee of the State Council announced a major adjustment to macroeconomic policy. Fiscal policy changed from "stable" to "positive." It announced to spend four trillion (about 586 billion U.S. dollars) yuan in the next two years on infrastructure and social welfare in order to avoid excessive spending quickly. On 19 November 2008 the State Council Committee researched and determined six measures to promote the healthy development of light industry and give further strong support to help overcome the difficulties of light industry. In 2009 the central government public investment arranged nine hundred and eight billion yuan, an increase of 487.5 billion yuan.

This policy is aimed to increase output by increasing government spending. Through the analysis of IS curve, an increase in government spending G makes the IS curve shifts to the right to IS 'Figure In LM unchanged, the intersection moves to the right, balanced output increased, from Y to Y '.

At the same time China is also promoting tax reform, tax cuts for businesses and residents. For example on 10 December 2008, the Chinese government has proposed a tax reform; on 1 January 2009 announced the VAT would be reduced. Thus the burden on enterprises will be reduced over one hundred billion yuan. Corporate income tax will also be reduced more than one hundred billion yuan. These policies are to reduce the tax burden on businesses and residents, expand business investment, and increase people's spending power. Increase output by reducing taxes. With the IS curve analysis, increased government spending, reduce taxes T makes the IS curve shifts to the right to IS 'Figure in LM unchanged, the intersection moves to the right to increase the equilibrium value, from Y to Y'.

Although the output value increased at that time, i also increased. Let's look at how China adjusts through monetary policy.

In the background of the financial crisis, in order to keep stable and rapid economic growth, China used loose monetary policy. For example: on 16 September 2008, 9 October, 30 October, 27 November, 23 December, the People's Bank of China lowered the benchmark interest rate five times. On 15 September 2008, 8 October, 26 November, and December 22, The People's Bank of China lowered statutory reserve rate four times.

Reducing the benchmark interest rate is helpful for expanding consumption demand and investment demand. IS curve shifts to the right to IS ' means the rise in value. Reduce the statutory reserve requirement of commercial banks to stimulate lending and deposits. Credit makes it easier to expand business loans for production investment. Increase in GDP. It can also increase the money supply so the LM curve shifts to the right. If the IS curve doesn't move, the value of output increases from Y to Y '.

When we use both fiscal policy and monetary policy (increasing the money supply), IS curve shifts to the right to IS ', LM curve move to the right to LM'. This time we find that Y reaches Y '', and the interest rate does not change.

Since China is a socialist country, macro control over is very effective, in the next section, we will discuss the People's Bank of China's independence. Whether the proactive fiscal policy or the expansionary monetary policy, they are to ensure the steady growth of GDP. The implementation of these policies will make the IS curve shifts to the right to IS ', LM curve shifts to the right to LM'. Thus the commodity and currency markets can achieve the two equilibrium states, under the certain conditions it can also ensure the employment rate and people's living standards.

3.3 Independence of PBC

Then let's take a look at the independence of the next three banks.

First, we want to know what the central bank's independence is.

The so-called independence of the Central Bank is the central bank in the discharge of the functions of currency management autonomy. "Do not accept instructions from the government, no necessary to negotiate with the government, and has the power to decide unconditionally to maintain or change the current monetary policy." Central bank's independence is reflected in the field with the formulation and implementation of monetary policy directly related functions, including the determination of the discount rate, the statutory reserve ratio and open market operations(Liu W.D.,2004).

The central bank should maintain certain independence from the government because the central bank is in a special position in the financial system and the national economy. It bears a special responsibility to play the role of a central bank. The central bank must have a certain degree of independence. Firstly, the business activities of the central bank must meet the financial objective rules and characteristics, and the central bank should maintain independence from the government so thatit can better implement its business activities.Secondly, the central bank, with strong professionalism and technicality, formulates and implements monetary policy, monitors and manages financial sector,regulates and manages macroeconomic running and maintains financial stability, although the central bank needs to do things according to the goals and intentions determined by the government. However, the object of the central bank are currency, financial institution and financial market, so the control method is economic method with strong technicality(Yan F.,2005).. Then the government officials do not have this kind of skill, therefore, the central bank should be given a certain extent independence. Furthermore, the position, behavioral purposes, interests and restraints between the government and the central bankare different, if the central bank do things fully according to the government's instructions, then it may lead to bad situation occurring, such as, issuing currency, aiming at remedy the deficit, could leads to inflation (Bernanke B.,1997), lower the stability of the monetary policy leading to fluctuations in the financial operation. So the central bank to deal with the government to maintain a certain independence; Furthermore, the independence of the central bank to maintain a certain policy may make the central bank and other government departments to form a complementary relationship and constraints, increasing the effectiveness and stability of a comprehensive policy, to avoid a decision and policy mistakes caused the loss of global economic and social development of; Finally, the central bank can maintain a certain independence of central banks and branches also make a comprehensive, accurate and timely implement the principles and policies of the head office, and less intervention by the local government to ensure a unified monetary policy decisions and implementation of macro-control of the central bank to increase the timeliness and efficiency central bank operations.

There are three modes of the central bank: German model, British & French models, and Chinese model. European Central Bank is the German model is built, the Fed is established by the British and French models, and People's Bank of China is a Sino-Japanese model.

The characteristics of the model of German are to the primary objective of price stability. Under the premise of price stability and then we can consider other objectives. In British and French model, the central bank is to achieve multiple objectives, such as price stability, full employment and financial stability. In this mode, price stability is only one of the goals.

The model of German of the central bank is to maintain a high degree of independence. Independent The decisions of central bank are on interest rate policy, without interference from the political authorities. This principle is also reflected in the central bank law related to them. British and French models are politically dependent on central banks, that is, monetary policy decisions have to be approved by the government (Minister of Finance), and by the Minister of Finance to decide raise or lower interest rates.

It has been 60 years since The People's Bank of China was established(Wen H.,2004), Especially since the reform, it has undergone tremendous changes institution, functions, status and role, etc.,

In its inception, the Chinese People's Political decided to incorporate The People's Bank of China under the State Council, the Financial and Economic Committee to accept guidance to maintain close ties with the Ministry of Finance, the National Bank of the functions given its commitment issue the national currency , manager of the National Treasury , management of national finance, stabilize financial markets and support economic recovery and national reconstruction tasks. It can be seen that The People's Bank of China is subject to government intervention guidance, independence is relatively weak. In 1962, the central committee and the state council of China decided to make The People's Bank of China upgraded to the same status with the Ministries and Commissions Under the State Council.

Then in July 1969, the People's Bank of China was decided to be combined with the Treasury system, but businesses were managed separately. At the end of 1977, the state council decided to set up People's Bank of China as a department of the state council since 1 January, 1978.

The People's Bank of China served as a department of the State Department . In 1998 , the Ninth National People's Congress approved the State program of institutional reform, greatly streamlining the organizational structure of the State Council , the People's Bank of China still become one of the component departments of the State Council , and as one of the country's macroeconomic regulation and control department, its position further enhanced. It can be seen that on the whole, The independence of the People's Bank of China is relatively weak. But in the process of development, it shows a gradual increase in the trend.

Common quantitative indicators for central bank independence were proposed by Loungani and Sheets two economists in an article in 1997, called LS index. The index considers the transition economies CBI indicators should include three aspects: First goal of independence, the Central Bank Act is separate to price stability as the primary goal of the central bank; Second, the economic independence of the central bank are not subject to government intervention in the free formulation monetary policy, and whether they have the legal right to decide the ultimate goal; Third, political independence, including the appointment and dismissal procedures central bank officials, the extent of government involvement term central bank and a member of the Board of the Council. According to estimates of the scoring method, you can get the CBI since China's reform and opening up.

The central bank of china is only low independence, embodied in the following three aspects:

1. Weak objective of independence. "Banking Law" Article XII states: "the establishment of People's Bank of China Monetary Policy Committee Monetary Policy Committee responsibilities, composition and working procedures prescribed by the State Council, at the Standing Committee of National People's

Congress for the record.."

2. Weak independence of decision.The central bank of china implementation monetary policy. The effect is closely related to the Ministry of Finance, the Ministry of Construction and other ministries of economic and industrial policies. People's Bank of China only enjoy the right to decide matters of monetary policy in general, and for the year, such as the money supply, interest rate and exchange rate policy issues significant only making power and executive power, but the final decision belongs to the State.

3. Weak legal independence. Country from a global perspective, all the stable currency as the central bank the primary or sole goal and get better results, and the legal status of their higher than the central bank. Bank of China has a dual nature: on the one hand the state organs, according to the management of administrative authority to exercise the financial sector; on the other hand it has a capital of a business can operate legally.

3.4 Taylor’s rule in China

Taylor rule is one of the commonly used simple monetary policy rules, the rules of a short-term interest rate s by John Taylor of Stanford University in 1993 (Taylor.J.,1993)based on the actual experience of monetary policy of U.S., and to determine the adjustment

Since the 1980s, the Federal Reserve has basically accepted the "single rule" monetarism, to determine the amount of money supply in the economy as the primary means of macroeconomic control. After entering the 1990s, one of the most significant events has occurred in the field of macroeconomic regulation and control of the United States, that is, a balanced budget proposal (1) was adopted. Under the new financial framework for the operation, the federal government is no longer possible by expanding spending, reduce taxes and other traditional fiscal policy to stimulate the economy, resulting in a considerable extent, weakened the role of fiscal policy on the implementation of macro-economic regulation. So, monetary policy has become a major tool for the government to regulate the economy. In face of the new situation, the Fed decided to give up the more than ten years to regulate the money supply to regulate the economy monetary policy rules, and to adjust the effective interest rate as the primary means for the implementation of macro-economic regulation. This is "Taylor rule" of financial sector of the U.S now.

①Balanced Budget

Balanced Budget fiscal measures, including spending that income levels. Government spending, including defense, education, culture, public works, public debt repayment and other items of interest, income taxes and a variety of surfaces mainly public utilities surplus to the treasury two items. When the balance of payments are equal, is called a balanced budget.

Its main contents include:

(a) balanced budget. As long as a certain percentage of the balance or deficit does not exceed the amount of the total budget revenue, may be regarded as a basic balance;

(b) the proportion of the budget allocated to coordinate.

John Taylor (Taylor, 1993) study have found that the practice of monetary policy in the various for the United States, Britain and Canada and other countries .That influences the price level and economic growth, the real interest rate is only able to maintain long-term stable relationship with prices and economic growth variables. John Taylor, based on the empirical test results, presented in the form of the general form of the Taylor rule

$$r_t = r^* + \pi_t + \beta(\pi_t - \pi^*) + \gamma(y_t - y_t^*) / y_t^* \quad \text{（a）}$$

π_t Actual inflation

π *Targets inflation of Central bank

r_t The effective interest rate

$r*$ The equilibrium interest rate（1）

y_t Real GDP

y_t^* Potential output(2)

β , γ are coefficients are greater than zero.

①RuYi, “adaptability Taylor rule in China”, 【J】Shanghai Finance, 4th 2005

② the equilibrium interest rate, is the interest rate consistent with maintaining the currency in circulation in the money supply and money demand when.

③ potential output that potential GDP.

Potential GDP is also called potential output or potential income, potential GDP is the maximum output of a country in a given period of economic resources available for use under the conditions that can make full use of the production. In the state can produce full employment GDP. Here's GDP reflects the maximum output capacity in that period.

The policy implications of the Taylor rule is that only when the effective interest rate equal to the equilibrium interest rate, real output is equal to potential output, the economy will continue to grow in a stable state.

Under the guidance of the Taylor rule, the central bank should develop policies to maintain a neutral level of interest rates, in order to form a stable interest rate environment and avoid excessive fluctuations in interest rates and economic trends deviate from disrupting the economy, in order to protect the economic objective of maintaining inflation rates level of sustained and stable growth(Pier F. A., George A. K., and Robert L.,2007). The effective interest rate should be regulated according to changes in inflation and output, in order to maintain a balanced economic growth and reduce volatility.If the inflation rate over target inflation rate, or more than the potential level of output, then the monetary authorities should use the tool to adjust the nominal interest rate policy, thereby enabling the effective interest rate is higher than the equilibrium interest rate, and thus inflation. Conversely, if deflation, or below the potential level of output, monetary authorities should significantly reduce the nominal interest rate, and make real interest rates below the equilibrium level.

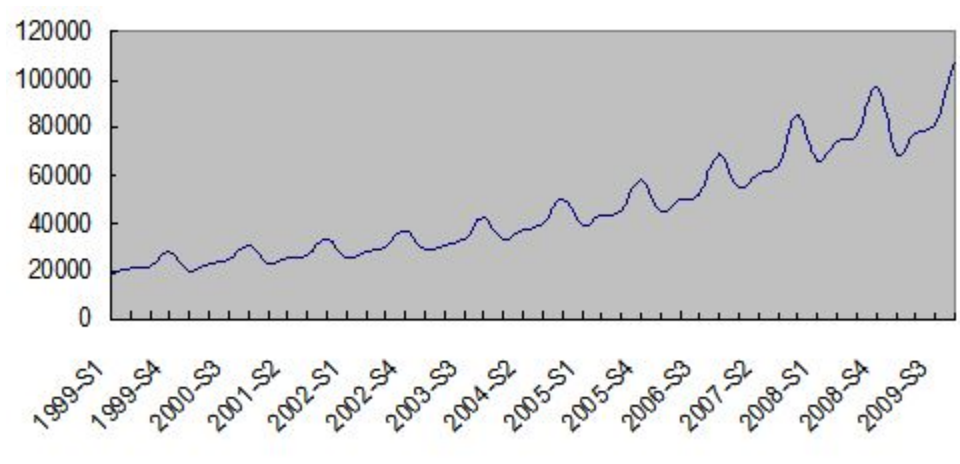


Figure1:Nominal GDP

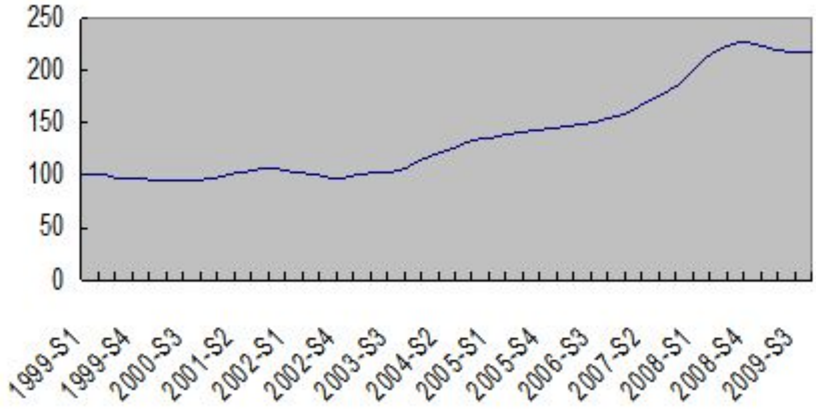


Figure2:CPI

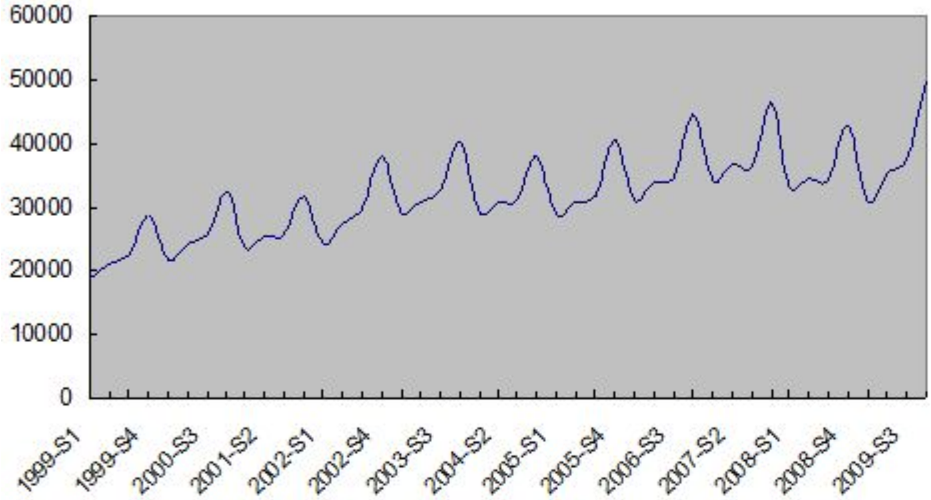


Figure3:real GDP

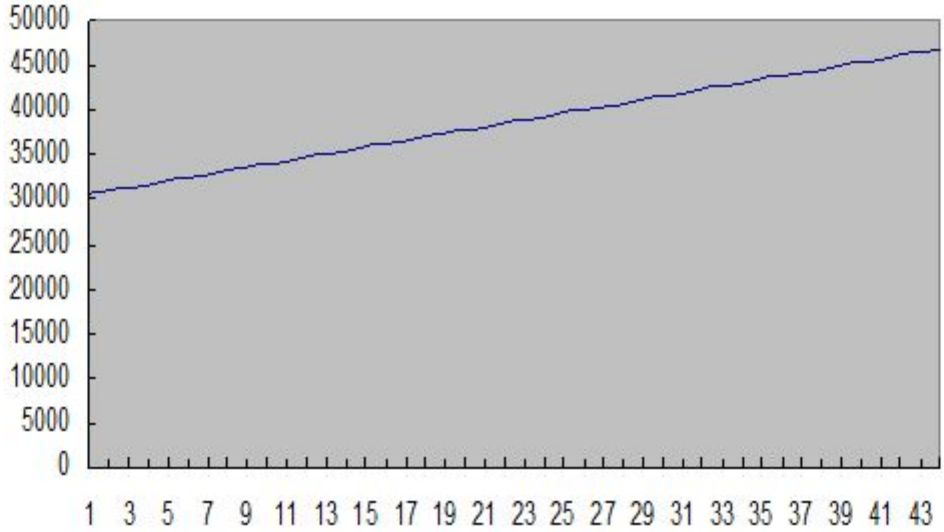


Figure4:potentel GDP

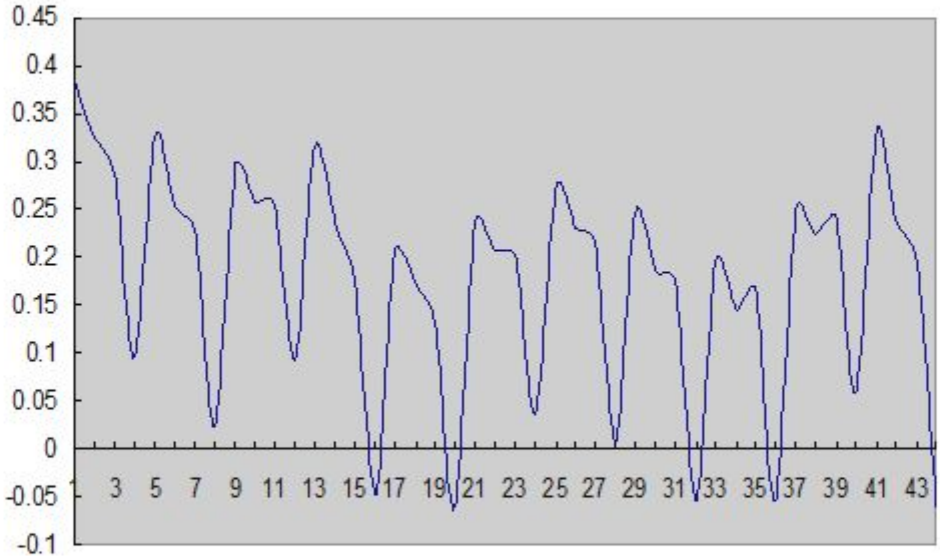


Figure5:Output gap

Source of figure1,2,3,4,5：Wang Lei, “empirical research Taylor rule in China”, Publishing house of the People's University of China ,2009

The effective interest rate should be regulated according to changes in inflation and output, in order to maintain a balanced economic growth and reduce volatility. If the inflation rate over target inflation rate, or more than the potential level of output, then the monetary authorities should use the tool to adjust the nominal interest rate policy, thereby enabling the effective interest rate is higher than the long-run equilibrium rate, thereby inhibiting inflationary pressures. Conversely, if there is deflation, or below the potential level of output, monetary authorities should significantly reduce the nominal interest rate, and make real interest rates below the equilibrium level. Taylor believes that this rule which represents monetary policy is good policy, so it directly links intermediaries goals to the ultimate goal, and in many macroeconomic models, which can effectively reduce the volatility of prices and output. In addition, this rulealso matches the Fed's interest rate policy of the 20th century well.

But Taylor rule in China have found the following shortcomings: First, "Taylor rule" is not enough to satisfy the applicable premise； Secondly, it has deficiencies of research methods and variables of China.

1 Does not match the specific circumstances of China and the rules applicable to the premise Taylor(RuY.,2005).

Taylor rule applies premise:

(1) The interest rate market

Taylor rule of law is the core interest rate in order to regulate the expected economic impact, therefore, only in a developed economy, interest rate formation mechanism to improve the high level of market interest rates, market responsive national policy transmission mechanism in order to have adapted to it, under the guidance of the Taylor rule monetary policy was likely to be implemented successfully. On the contrary, the rules for a market economy or interest rates underdeveloped countries control more stringent guidance meaningful.

(2) A floating exchange rate regime

Under a floating exchange rate, a country's central bank output and inflation can be adjusted according to short-term interest rates, but at a fixed exchange rate to the next country cannot decide alone its short-term interest rates, because the rise in interest rates will lead to inflow of foreign currency in the form of currency appreciation pressure. So, another prerequisite for the implementation of the Taylor rule is a floating exchange rate system.

(3) $\gamma > 1$

$\gamma > 1$ is under the guidance of the Taylor rule for monetary policy to play a positive role in national economic development premise, called " Taylor conditions ."

Because China 's interest rate reform has just started, flexibility and structure of interest rates is not yet possible and reasonable, the actual equilibrium interest rate is difficult to form , coupled with China's implementation of the exchange rate is " a managed floating exchange rate system" , rather than " floating exchange rate regime , " Therefore, under our current financial system , even though the Taylor rule provides us with a good reference scale , but effective implementation of the Taylor rule would be seriously affected.

B. Problems of testing Taylor rule

China for Taylor rule are mostly exploratory research, without much empirical research, Xie Ping, Rochon (2002) conducted a more systematic empirical research. Xie Ping, Rochon (2002) analysis and tests conducted by the reaction function method is not perfect, there are some places with history, for example, they use Professor Taylor derived in accordance with U.S. economic data directly for China's actual Taylor rule test case, but this formula is Professor Taylor rule by the rules applicable to the United States Federal Reserve System data from 1987 to 1992 the Institute of monetary policy derived formulas, in which the inflation gap and the output gap coefficient in China the data is not calculated, therefore, their test results Taylor rule applies to our results should be questioned.

C.Estimation of GDP gap

Using the Taylor rule, there are still some technical problems, according to the Taylor rule, short-term interest rates must be adjusted according to the GDP gap, which involves a measure of potential GDP Problems. If the estimate of potential GDP is too high, you can make the simulated path of growth rate path is lower than necessary, resulting in inflation; Conversely, an increase in interest rates will make the path to growth path simulation is higher than necessary, thereby inhibiting economic growth. Different methods will result in different estimates of the output gap, but a long time, Chinese academics about which one is the appropriate method has not formed a unified opinion, it is not even a consensus on the concept.

D. Taylor rule correction factors not considered in the exchange rate regime

At present, China’s research for Taylor rule is to test and fix more core Taylor rule applicable in China, without considering the impact of exchange rates on interest rates, output and inflation in an open economy. With the gradual deepening of reform and opening up of China, especially after joining the WTO, the requirements of a country's exchange rate policy arrangements to reconcile internal balance (control aggregate demand close to full employment without inflation) and the external balance (keeping BOP) two issues, China's capital market will be fully open, the Chinese economy and financial markets will become increasingly diversified, domestic and foreign economic ties will become closer.And we know that in an open economy, we do not have to tighten policy to offset the increase in inflation, because inflation effects of changes in the exchange rate will eventually be reversed. Target inflation rate, inflation rate method allows short-term fluctuations, maintain the stability of inflation in the long term, reduce the volatility of output, the impact of exchange rate on import prices is the fastest growing channel of monetary policy transmission to inflation. As a result, policy makers to impose a neutral policy so that inflation close to the target rate of inflation, that is to offset changes in the rate of inflation through frequent exchange rate movements, which may lead to large changes in interest rates, thus, interest rate and exchange rate changes will eventually result in a larger change in output. At present, there is no floating exchange rate system,mainly uses The Policy of Yuan-US Doller-Pegged Exchange Rate.Small changes in the nominal exchange rate, but the actual rate of inflation after the elimination of major changes there, have a certain impact on interest rates, Granger causality test results show that the elimination of Granger cause the real exchange rate of inflation for the market interest rate (Zhao Jinwen , 2004). Therefore, under the background of the gradual opening up of China's economy, the exchange rate variable as important variables that affect market interest rates should be added to the test type in the Taylor rule. Further amendments of the Taylor rule: the exchange rate factors and Taylor rule of China is assumed that the monetary authorities in the context of interest rates to control the operation of independence, but in practice this is difficult to achieve. Athanasiosr-phanides (1997) pointed out that, under a fixed exchange rate system. Central bank manipulation of interbank lending rates will be affected by the degree of freedom of the fixed exchange rate decreases, so. In "managed floating exchange rate system of China," the exchange rate regime F. Taylor rule is modified as necessary(Army, Zhong D.,2003).

1.Introduction of exchange rate factors

In fact, our current practice is still pegged to the dollar's fixed exchange rate regime. In an open economy and global economic integration dual background. Exchange rate serves as a contact in the domestic and international economic leverage, while regulating both domestic and foreign markets and plays a key role in double-balanced domestic economy. With the openness of China's economy, expanded capital market will gradually open outwards(.Xie P., Ro X.,2003). RMB will eventually be in freely convertible under the capital account. International capital flows on the domestic capital market impact will be further intensified. Obviously, Fluctuations in exchange rates have a more significant impact on capital flows. The current exchange rate policy will be faced with problems that must adapt to the free flow of capital to make new adjustments and choice, more likely to form in the currency overvalued or undervalued, resulting in currency speculation and currency overvalued national currency plummeted type financial crisis. If they continue to implement the peg, the peg will appear with the free movement of capital coexist dangerous external economic structure. Therefore, the adjustment of the RMB exchange rate policy imperative, Chinese independent monetary policy and a stable exchange rate target is facing serious challenges. Under the premise of capital flows. Through periodic rate adjustments, the contradiction can be partially solved between the independence of monetary policy and a fixed exchange rate. (Ye Yi, 2000). If the interest rate rules ignore the exchange rate factors, the policy makers will lose influence by adjusting interest rates for spending. Therefore, during further study of the Taylor rule in the specific application in China, we must seek ways to consider acceding to this important factor.

Set weights for interest rate and exchange rate, and then factor in the exchange rate can be introduced to Taylor rule:

$$wr + (1 - w)e = ay + b\pi^{*} \quad ①$$

This formula and there are two different core Taylor rule, first, the rules on the right of the target inflation rate π is the long-term inflation rate π * replaced by the second, the left is no longer a variable interest rate, but according to economic conditions and interest rates, respectively, rate assigns weights, known as the MCJ (monetary conditions index) ②, weights w and w are 1 an interest and exchange rates affect the proportion for total expenditure, in a small open economy, interest rates right number of 0.75 and the weighting rate is 0.25. But Lawrence Ball (1999) considered to MCI for the policy rules to regulate monetary policy has little effect, because the interest rate adjustment does not require changes MCI. MCI recently for whether it should appear on the inside of the monetary policy rule is also great controversy, therefore, the conversion formula, we get:

$$r = (a / w)y + (b / w)\pi^{*} - [(1 - w) / w]e$$

① RuYi, “adaptability Taylor rule in China”, 【J】Shanghai Finance, 4th 2005 PG3

② MCI monetary condition index. Monetary conditions, also known as monetary policy conditions, is the reflection of monetary policy based on the relative changes in exchange rates and interest rates and other aspects of the indicators "loose" or "crunch" level, generally with monetary condition index to measure. The index was originally developed by the Bank of Canada in 1994 as the first use of the operating target of monetary policy. Since the 1990s, more and more central banks in developed countries began to MCI as a monetary policy indicator scalar, even as the operating target of monetary policy. Monetary conditions index examines the main transmission channels of monetary policy, monetary variables in the calculation of the different impact on the real economy on the basis of preparation. Monetary conditions index rose, indicating that monetary policy tightening; monetary conditions index fell, then the relatively loose monetary policy environment.

On the left is the actual interest rate formula r, the modified formula will exchange e placed to the right of the equation, namely policy makers to control the output by adjusting interest rates, inflation and exchange rates. However, the actual exchange rate in our country should be under the "managed floating exchange rate regime," the exchange rate regime, after the elimination of other factors.

The advantage of this formula is the inclusion of the exchange rate factor, if interest rates this rule ignores the important variables that policy makers will lose an opportunity to adjust interest rates to offset the impact of exchange rate movements for spending(Yang Y.J,2002), output and the result is to bring significant fluctuations in inflation. Meanwhile, when the exchange rate impact, this formula can get a core Taylor rule different results.

4.Comparison

4.1 Fed Reserve and ECB.

4.11 Fed Reserve

U.S. central bank was established in 1913, which is the latest established in Western developed capitalist countries.One of the major reasons is that the economy of the US was developed from colonial economy. The early market economic system was not perfect. Another reason is that the U.S. authorities have been hesitant, fearing the central bank would limit the credit needed for national development, which onehas too much financial power,

Before the Civil War, the state government rather than the federal government controlled the country's financial system. Creating a new bank was approved by the state legislature, which was influenced greatly by political factors. If a new bank hadgood political relations, even though it hadvery little experience in banking, it can be registered with little capital. This situation leaded to a high rate of bank failures, which one caused huge losses to the economy.

In the end, a series of economic and financial crisis that occurred in the late 19th and early 20th century, forcing the U.S. Congress had established the Federal Reserve System. In November 1913, President Woodrow Wilson signed the "Federal Reserve Act".And then the Federal Reserve Bank started businesswhen World War I began in Europe .

The formation and development of the Federal Reserve:

1788:Constitution was approved. States are not allowed to issue currency. American Monetary Union established.

1971: The First Federal Bank got license.

1811: End of the First Federal Bank.

1816: The second Federal Bank got license.

1836: End of the second Federal Bank.

1837: The country experienced severe banking panic

1857: The country experienced severe banking panic. Southern and northern rebels set up their own capital.
1861: Civil war began. Federal money is divided into three currency zones: the northeast greenback greenbacks, Confederate bills and Southern California Gold.
1865: The Southern surrendered. Southern Federal bills to stop using.
1866: Congress passed a bill shrink. And Congress wanted to quickly return to the gold standard.
1873: California banks were permitted to issue currency (yellow back bills) with gold as supports.
1879: Specie payments were recovered. Yellow and green back dollar bills dollar bills back unity.
1900: The gold standard was established
1907:A banking panic led to the national currency management committee was established.
1913: The Fed was established.

The Federal Reserve is made up of 12 Federal Reserve Banks. These12 Federal Reserve Banks, which are operated by national centersbanking system,were established by Congress in 1913 which was passed according to the Federal Reserve Act. The Act required the country divided into 12 Districts. Each district needed to set up a branch of the Federal Reserve Bank.

Federal Reserve Bank consists of 12 regional banks.There are located in (bank code in brackets) : Boston (1) , New York (2) , Philadelphia (3) , Cleveland (4) , Richmond (5) , Atlanta (6) , Chicago (7) , St. Louis (8) , Minneapolis (9) , Kansas City (10) , Dallas (11) , San Francisco (12) .

Among them, the assets of New York, Chicago and San Francisco Federal Reserve Bank are three largest, accounting for half of the total assets. In the other 25 cities, the U.S. Federal Reserve Bank has also set up branches.

In Management side, each Federal Reserve Bank is managed by nine part-time directors. Each regional Reserve Bank is a legal entity with its own board of directors.Member banks are U.S. private banks.In addition to the National

Banks must be the member banks, the rests depend on them voluntarily to add. If the bank joined the Federal Reserve System, the system will provide the member bank guaranteeon a private bank deposit.But the member bank must pay a certain amount of the reserve. And Federal Reserve System does not pay interest for this part of the funds.

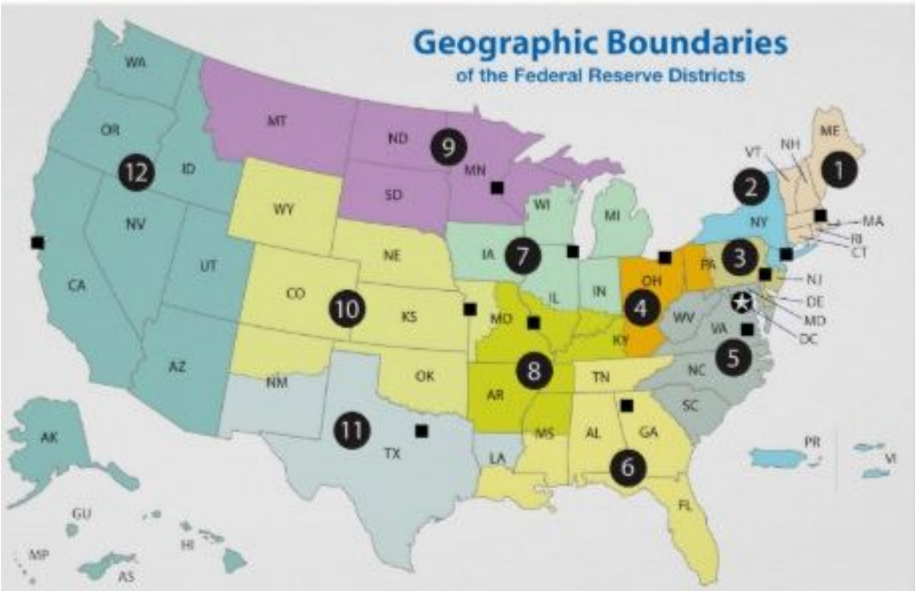


Figure:geographic boundaries of the Federal Reserve Districts

Source:The Federal Reserve officially identifies Districts by number and Reserve Bank city.

From:http://www.mypivots.com/dictionary/definition/433/federal-reserve-districts-and-regional-banks

Organization of the Federal Reserve System

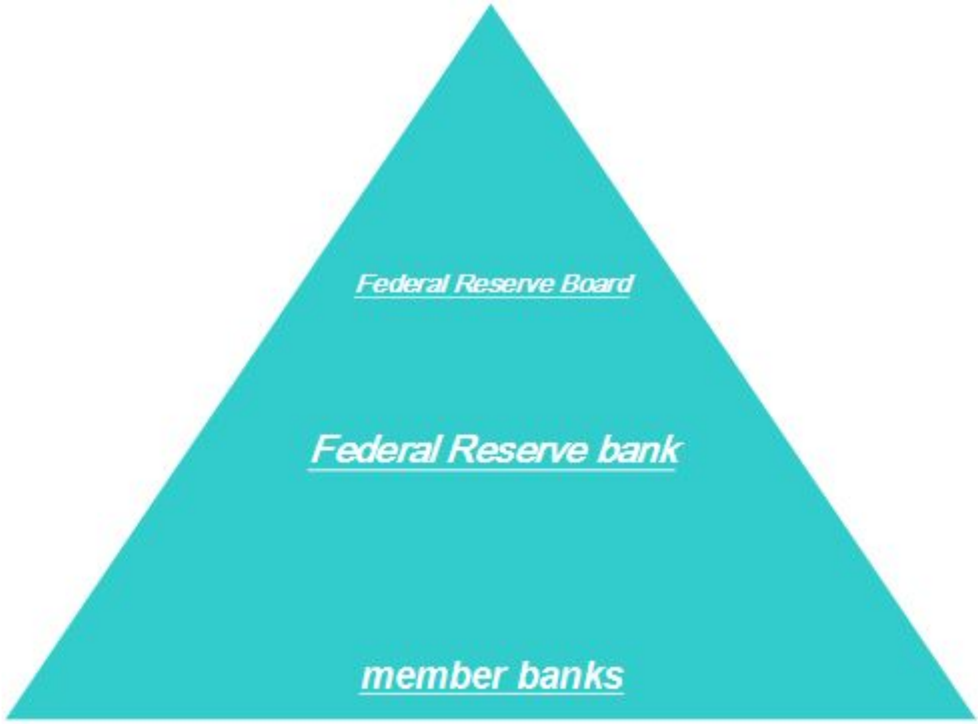
The main responsibilities of the Federal Reserve are:

1. Responsible for the development and implementation of monetary policy;

2.Implementing the regulation of banking institutions, and protecting the legitimate rights of the consumer credit;

3.Maintaining the stability of the financial system;

4.Providing reliable financial services to the U.S. government, the public, financial institutions and foreign institutions. Federal Reserve System is mainly composed by the Federal Reserve Board, the Federal Reserve Bank and the Federal Open Market Committee.



Figue: pyramid of Structure of the Federal Reserve System

Source: FEDERAL RESERVE SYSTEM.

From:http://www.amosweb.com/cgi-bin/awb_nav.pl?s=wpd&c=dsp&k=Federal+Reserve+System.

Pyramid's spire part is the Federal Reserve Board. (The full name is called The Board of Governors of The Federal Reserve System. the Federal Reserve System management committee can also be called the Federal Reserve System Board). It is mainly the Federal Reserve policy makers and Management Group.

In the middle part of the Pyramid is the Federal Reserve Bank (Federal Reserve Bank), responsible for implementing the policies and providing the necessary services to its regional banks and other deposit-based financial institutions. Middle section also includes the Federal Reserve Open Market Committee (The Federal

Open Market Committee, referred to as the FOMC).

At the bottom of the pyramid are members of the banking system. They are inspected and managed my Federal Reserve. Others at the bottom are operators of the open market account system, they responsible for the trading of securities in order to achieve the Federal Reserve's monetary policy objectives.

The Federal Open Market Committee consists of 12 members, including all seven members of the Federal Reserve Board and the New York Federal Reserve Bank. The other four places in turn served by another 11 Federal Reserve Bank. This committee set up of a chairman (usually chaired by the Chairman of the Federal Reserve Board), a Vice-President (usually performed by the New York Federal Reserve Bank). In addition, all other Federal Reserve Bank may attend meetings of the Federal Open Market Committee, but they have no voting rights.

4.12European Central Bank

Cooperation unified central bank formation history of the European Central Bank European countries between the historic process, and jointly safeguard financial stability is a manifestation of the common interests of the European countries.

In the March of 1969, the EC proposed the concept of the establishment of the first Summit of the European Monetary Union.

In the February of 1971, the EC Council of Ministers of the six countries through the establishment of the European Monetary Union protocol and decisions within the decade from 1971 to 1980 in three phases to achieve the goal of monetary union.

1990 Rome Conference proposal to establish the European Central Bank System (ESCB), and then established a position ESCB in 1992 signed the "Maastricht Treaty" in and signed (ESCB and the ECB articles of the Protocol "and" Articles of Association of the European Monetary Authority Protocol. "

On 1th January, 1994, the European Monetary Board - the predecessor of the future European Central Bank was established to coordinate monetary policies of the Member States

European Central Bank system

From the organizational point of view the European Central Bank system in the setting of their own bodies between independent and between EU institutions and member governments and also independent.

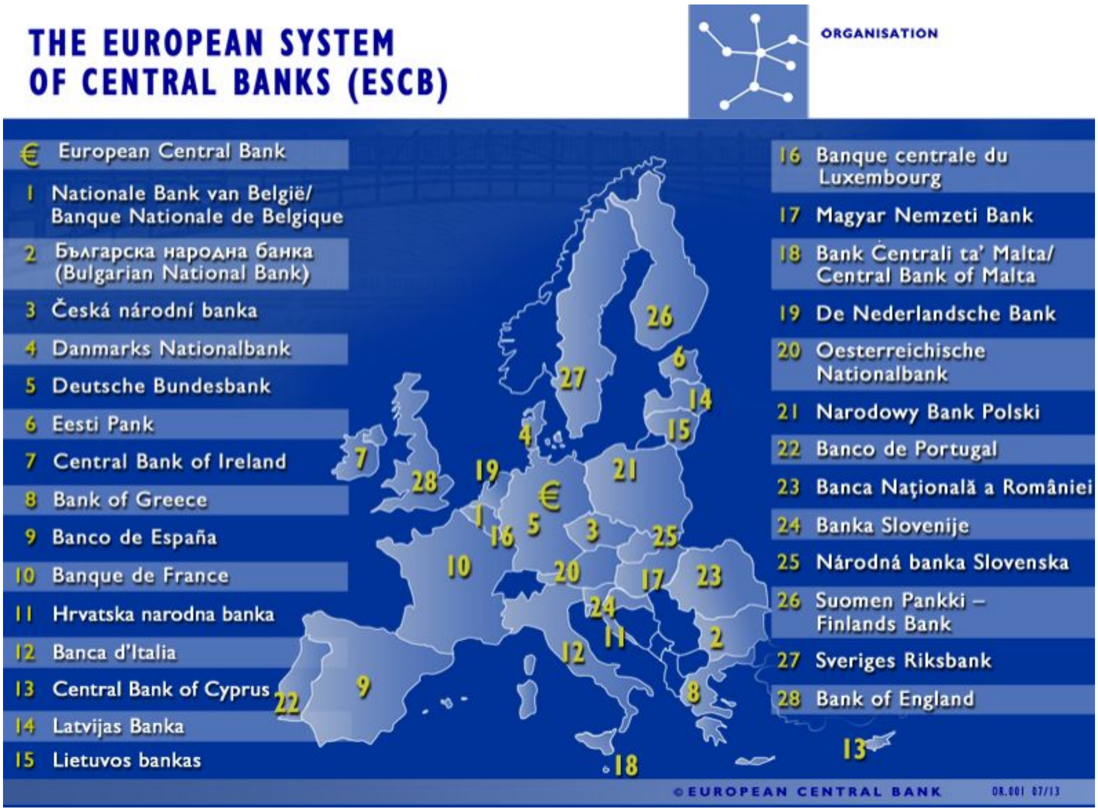


Figure:The European System of Central Banks(ESCB)

Source:The European System of Central Banks

From:https://www.ecb.europa.eu/ecb/educational/facts/orga/html/or_001.en.html

European Central Bank system (European System of Central Banks, ESCB) consists of two parts: First, the European Central Bank (European Central Bank, ECB) itself, the second is the European Central Bank of 28 countries (EU National Central Banks, NCBS). No central bank did not join the euro is still a member of the European Central Bank system. But they have a special status: that allow it to develop and implement national economic development in line with monetary policy.

The basic functions of the European Central Bank to perform include:
1, the formulation and implementation of monetary policy, Economic and Monetary Union;

2, the implementation of foreign exchange operations;

3, hold and manage the official foreign reserves of countries to join the euro;

4, to promote the smooth operation of payment systems . European Central Bank's capital of 50 billion euros. The Board may increase the amount of capital funds. Member States is the only holder of these capital funds. The amount of capital subscribed is (50%) according to the EU member states accounted for GDP and population (50%) accounted for the proportion of the total population of the EU calculations. Central Bank Eurozone member states must pay the full subscription of the capital, and the United Kingdom, Sweden, Denmark and other countries outside the region can only pay 5% of the total. (A) ECB decision-maker is president of the Board (the Governing Council also translated the Governing Council , the Council) , the highest decision-maker is the European Central Bank , by the executive board members and the euro area national central bank governors . Shall have one vote system, generally implement a simple majority vote. Its main task is ; develop guidelines and necessary task to ensure the implementation of resolutions of the European Central Bank system ; develop the EU's monetary policy , including the intermediate targets , leading interest rates and reserve supply , determine the implementation guidelines. The Council is the only authority ECB EU member states and the central bank issued currency. Executive Board (the Executive Board). By the ECB president , vice- president and four members. Only citizens of the Member States , and is recognized as having money and banking professional talent to be as executive director. Implement a system into a vote , a simple majority vote of the general . The main tasks are: to convene meetings of the Council , in accordance with Council resolutions and the requirements of monetary policy implemented Jing communicated to the euro-zone central banks . Expansion of the Council (the General Council), the ECB president , vice president and central bank governors of all EU member states , the other four members of the Executive Board may also participate but not to vote. The agency is not involved in the decision-maker for the EU countries to join the euro established .

Federal Reserve System

The People's Bank of China

The European Central Bank

The Fed's course of development reflects the gradual maturation of the central bank of a monetary union during the development of the basic course. American Monetary Union is a country inside the monetary union, the Chinese central bank is also within a country monetary union, the euro is the currency of a coalition between the different countries, but the tone of a unified Europe is federalism, but the United States is completed type, the euro area is a progressive form, the same direction.

The Fed's relative concentration of power , which is the result of long-term development . The Fed is no similar agency of the Executive Council and the General Council of the ECB . In the history of the development , at the beginning and then focus on the Fed's power is decentralized process also appeared repeatedly . Fed powers decentralized central bank led to the Great Depression in the slow , difficult decisions unity . Recognizing this error after the Federal Open Market Committee gradual concentration of power , occupied the monetary policy formulation Arab initiative . Distribution of power FOMC experienced two processes and decentralized centralization . Established in 1922 , when the Open Market Committee , composed of five members representing 12 to vote on the Reserve Bank , the 1930 expanded to all 12 members of the Reserve Bank . By 1935 , the bank reserves the right to vote and be reduced to five , and for the first time give seven members of the Federal Reserve Board 's policy in the voting power of open market operations , the formation of today's models . Voting rights focus helps make clear and quick decisions.

Powers of the ECB's monetary policy is too fragmented, too many member banks mastered the right to vote , in this case , members of the Council can not control the majority of votes , so in the formulation of monetary policy is difficult to reach an agreement. The eastward expansion of the Eurozone ECB 's powers will be more dispersed. And the country's economic strength is not balanced on the implementation of ECB monetary policy will inevitably bring some problems. Currently the euro decision is made by a simple majority , each member has one vote in all member states of the Central Bank Governing Council have equal weight. If the new member states to join the euro , the Executive Council and the major powers in the formulation of policy will be in a weak position .

We look at the People's Bank of China ,

A People's Bank of China is the highest decision-maker ,

2 Monetary Policy Committee consists of eleven members. Therefore, the People's Bank of China is very focused right . Than the Federal Reserve and the European Central Bank are concentrated . Therefore, the People's Bank of China 's decision easier to control than the U.S. and Europe . Implement and more efficient.

4.2.A comparison of the economies in Europe, the U.S. and China

Usually, a country's economy can be analyzed from different index analyses. In this chapter we focus on the analysis of the economies in Europe, the U.S. and China. Because there are many European countries, and the conditions are very complex, so we mainly take Germany for example. Common economic indicators are the CPI, the inflation, GDP growth, interest rate and the balance of payments.

1 GDP growth

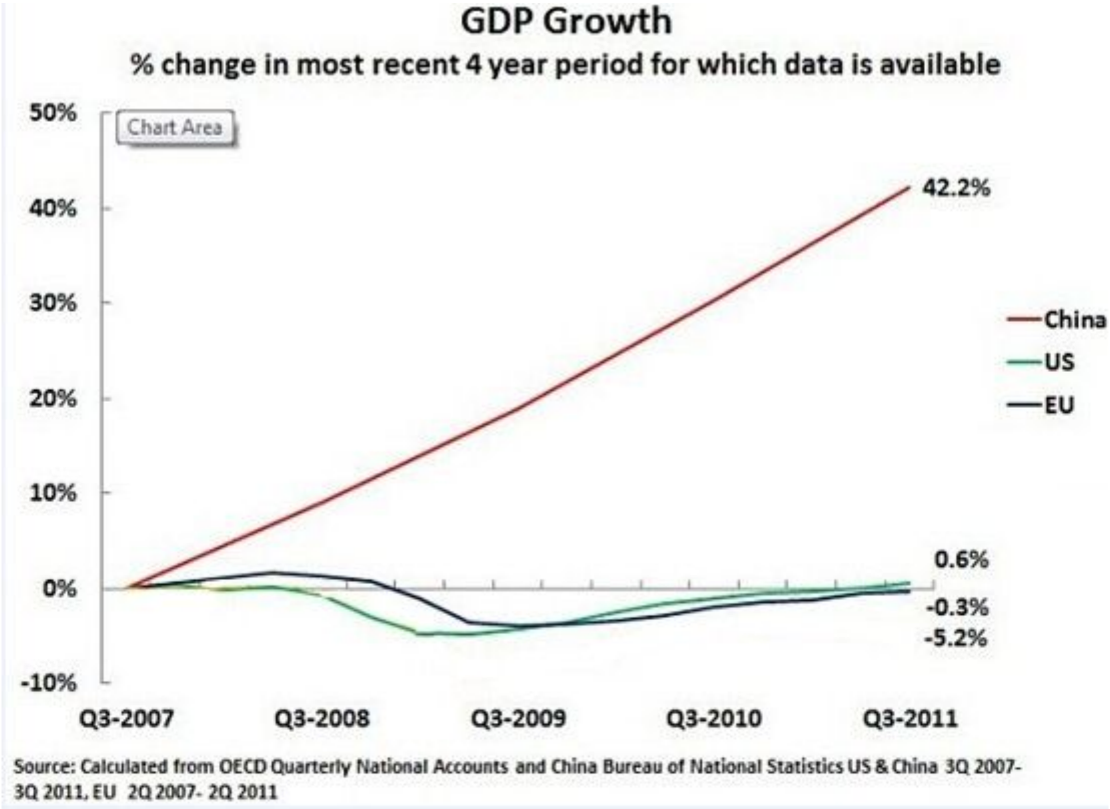
GDP (Gross Domestic Product, referred GDP).

GDP refers to in a given period (quarter or year), the final production and the values of labor services yielded by the national or regional economies, which is often recognized as the best measure of the country's economic situation. It not only reflects a country's economic performance, but also reflects the strength and wealth of a country. Generally speaking, if there are three consecutive quarters of negative GDP growth, it will be considered as a recession. Normal cycle is five to seven years' growth and two years' recession.

GDP growth rate is the growth rate of the gross domestic product gdp, reflecting the level of national economic development.

GDP growth rate formula as：

$$\text{GDP growth} = \frac{\text{Current GDP - Previous GDP}}{\text{Previous GDP}} \text{X } 100\%$$



From 2007 to 2009, the financial crisis was broke out on the 9th August, 2007, which was also called credit crisis and Wall Street tsunami. Since the sub-prime credit crisis, investors began to lose confidence in the value of mortgage-backed securities, triggering a liquidity crisis. Even though multi-national central banks repeatedly injected huge amounts of money into the financial markets, it can not prevent the outbreak of the financial crisis. Until 2008, the financial crisis was out of control leading to a number of fairly large financial institutions bankrupt or being taken over by the government. In about 2010, the gdp growth rate is the lowest, which is -5.13%. Recent years, due to the weak euro, the gdp growth rate has a tendency to be lower and lower.

The trend of US GDP growth

GDP growth of U.S. is better than Germany, which is usually 0 or more. 1970-1982 American "stagflation" phenomenon, in 1982 the GDP growth rate was relatively low, which was -1.98%. August 9^{th}, 2007 is the beginning of the financial crisis. Since the sub-prime credit crisis, investors began to lose confidence in the value of mortgage-backed securities, triggering a liquidity crisis for the lowest value of .2009 -3.53%.

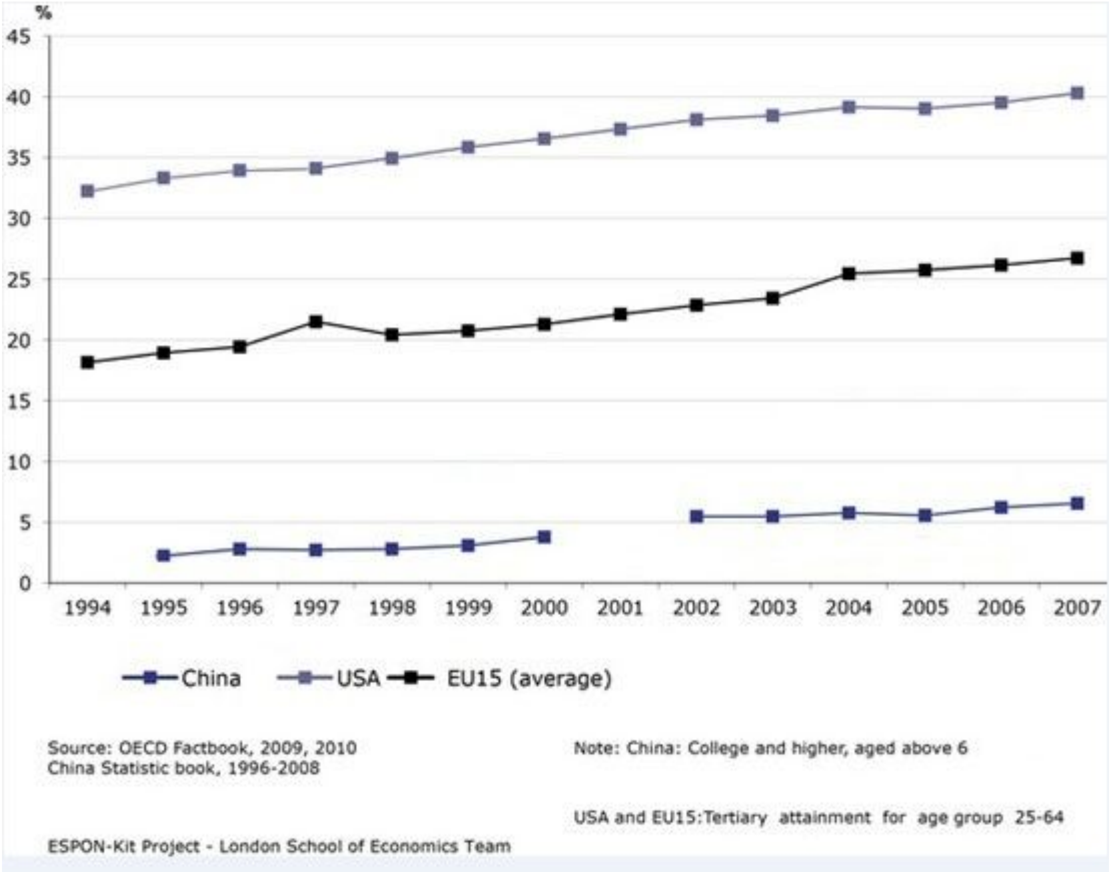
Although China's GDP growth has experienced some ups and downs, but fit is growing rapidly and stablely. In 2011, China became the world's second largest economic entity. This is 10 years in which China's economy develop rapidly.The GDP's average growth rate is 10.7%, while over the same period the average global annual growth rate is only about 3.9%

Reasons:

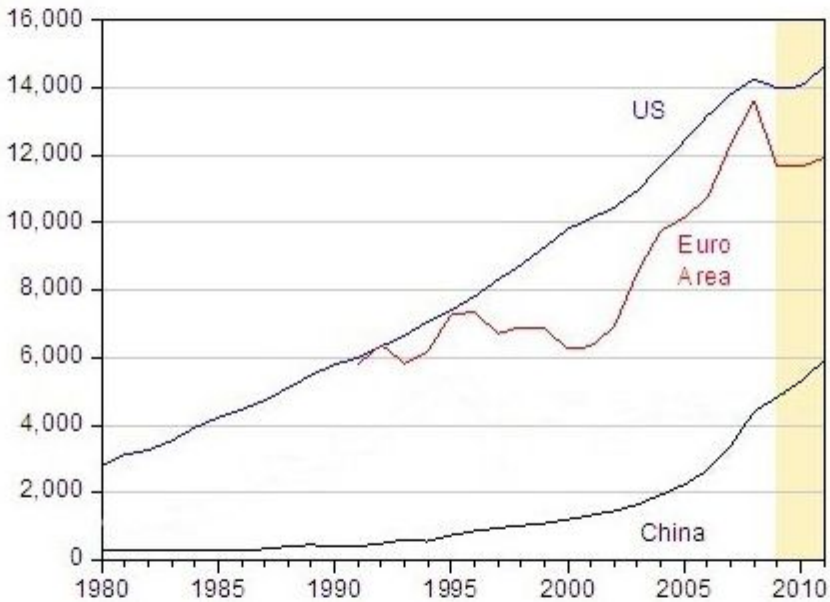
1. the growth of the employed population: China's labor force, even after many years of development, many people still can not find a suitable job, forming a hidden unemployment. With agricultural modernization and the expansion of secondary industry and tertiary industry, these hidden unemployed population could be transformed into the working population, thereby promoting economic growth.

2. the growth of the capital accumulation: China is a high-saving country, in which national savings grow faster than economic growth. This trend will continue; while foreign capital inflows speed may be slowed, but it will remain positive. Capital accumulation means the labor productivity growth and the economic growth.

3. technological progress: Although the domestic original technological progress is not fast, but the introduction of foreign technology progress is very fast, which is the advantage of a undeveloped country. Technological advances mean the labor productivity growth and economic growth .



Population of China,US,EU



Real GDP per capita of US EU and China.

Source: IMF, World Economic Outlook database, April 2009 version.

Although the GDP growth of China is very high, but the GDP per capita of China is very low：

1. The GDP growth of China is very high, but China's population growth rate is also very high. Affected by the rate of population growth, the average GDP is very low. In the structure of China's population, 70% of Chinese people are still farmers, and they are the kind of self-sufficiency. However, the education level is higher in Western countries , many people being educated.
2. The basis are not the same. Due to historical reasons, the development time of China's second industry and tertiary industry is very short.

The first, the second and the third industrial revolution are all happened in the West, while China has undergone centuries of colonial plunder. After the liberation, wanting to go on the road with Chinese characteristics, China missed the third industrial revolution, losing the Third industrial revolution. And now, with the reform and opening up, China was able to attract foreign investment as well as the opportunity to develop. But this development based on the cheap labor, is at the expense of resources and environment, China is still a poor country.

2. Inflation

Inflation means too much national money production, resulting in reducing the original value of the currency, making price rises. For example, the cabbage is originally 2.2 yuan a pound, due to excessive currency, the price then is 4.4 yuan. Objectively the money supply is greater than the actual demand, that is to say, the real purchasing ability is bigger than the output of the supply, leading to currency devaluation. This causes a phenomenon in which the prices are rising constantly and universally. Its essence is that the total aggregate demand is greater than the social supply (far less than the demand). Banknotes, gold coins with low gold content and credit money, over issuing will lead to inflation.

Economists' explanations for the inflation are not entirely consistent, generally defined as: In the fiat money system, the quantity of money in circulation exceeds the actual needs of the economy, which causes the currency devaluation and price levels rise.

The price increases in the definition do not mean one or a few commodities prices rise, nor do a temporary rise in the price level. Generally, it refers to the general price level continuing to rise in the course of a given period, or that the sustained period of time descent of the monetary value.

Therefore, the inflation does not refer to the rise of this or that price of goods and services, but the rise in the general price level.

General price level or the general price level is the weighted average of the total price of all goods and services transactions. The weighted average is the price index.

Generally three types measuring the inflation: the consumer price index, producer price index and the GDP price deflator. Simply speaking, when the government prints too much money, the prices rise.

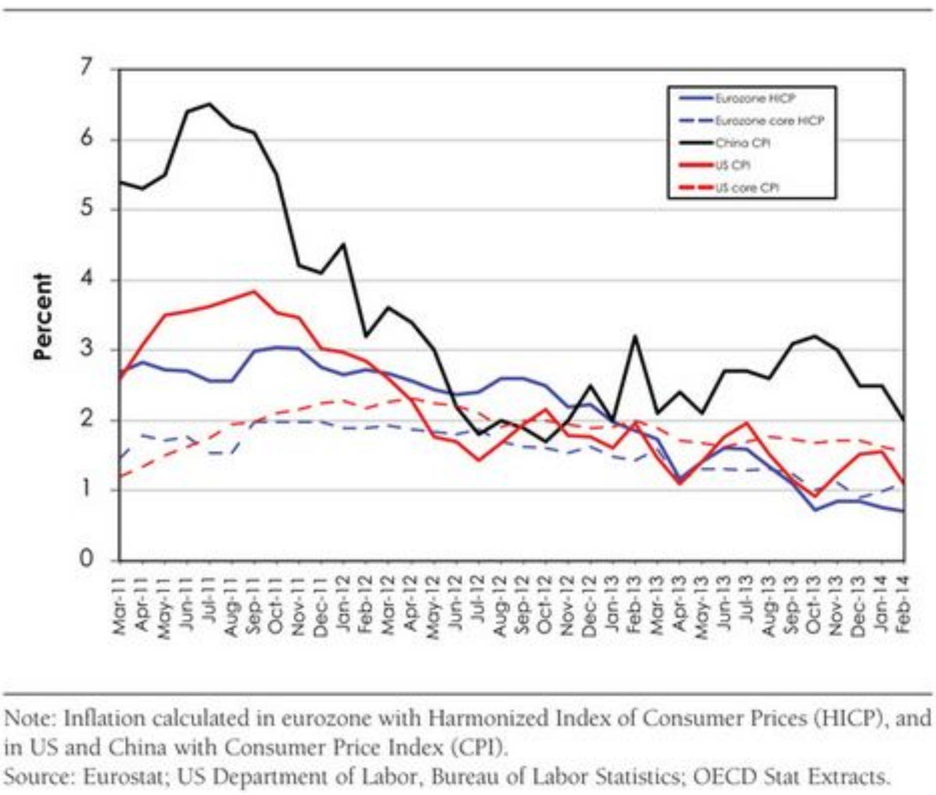


Figure: year-over-year Inflaticon rates for US,EU and China

It is not difficult to see from the figure, China's inflation is higher than that in Europe or in the U.S. In 2011, the inflation separately gets to a very high value.

The reasons are that:

(A) The imbalance between supply and demand of foreign exchange reserves caused inflation. Some people say that China's inflation is due to the Chinese goods exported to the U.S., and earning back the dollar and storing back in the United States, buying U.S. Treasury bonds. This may be one reason.

First, Chinese exports to the United States desperately, resulting in China's large trade surplus in Sino-US trade. Chinese government and the Chinese people have always stubbornly believed that the trade surplus is a good thing, and you can make big money. U.S. wants to narrow the trade gap between China and the U.S., but without success. A large number of Chinese goods are exported to the U.S. But this is not what the United States wants to see. In fact, earning the money, saving it without using it equals no money. The strongly saving idea of Chinese people is to have no confidence in China's social system, as well as their ability to earn. It is also one of the reasons why there is a large inflation in China over a period of time.

5. The exchange rate policy of China

5.1 fixed exchange rate and floating exchange rate

Fixed Exchange Rate System is the monetary authority of the country of the national currency exchange rates of other currencies to be fixed, and the volatility of currency parity between the two countries is controlled within a certain range. Fixed exchange rate system can be divided into a fixed exchange rate system under the gold standard years 1880-1914 and 1944-1973 years under the Bretton Woods system of fixed exchange rates (also known as the center of U.S. dollar fixed exchange rates) in two stages.

Advantage:

The main advantage of a fixed exchange rate system is to reduce the uncertainty of economic activity. Any country who would like to stabilize the price of high inflation can choose to join in a fixed exchange rate system to restore the credibility of the central bank.

Disadvantage:

Lack of flexibility. As each country's economic situation and background, the implementation of a unified monetary policy for individual countries may not be the best.

Fixed exchange rate sometimes become unstable， the level of exchange rate will suddenly change. If a country is forced to abandon the original target market pressures and the introduction of new exchange rate, which is called arrangements again. The reason why the implementation of exchange rate are arranged again is that sometimes in order to solve the long-term nature of the current account deficit or surplus. Exchange rate can be re-arranged currency appreciation, it can be a devaluation of the currency, but if the exchange rate re-arrange too frequently, then the exchange rate regime will lose credibility and the inherent instability of a floating exchange rate regime still exist.

Floating exchange rate system is the exchange rate determined by the market supply and demand, without any government intervention in the exchange rate system.In view of countries of management and loose of floating exchange rate is not the same degree, there are many categories of the system. In terms of whether government intervention can be divided into free-floating and managed floating, it can be divided into separate and joint float. By currency is pegged can be divided into a single currency peg to a floating currency and pegged synthesis.

Compared with a floating exchange rate, a fixed exchange rate provides a more stable environment for international trade and investment, reducing the risk of exchange rate. To facilitate the import and export costing, and profit assessment of international investment projects , thus contributing to the development of foreign trade, for some Western countries of foreign economic expansion and export of capital has a certain role. However, in the foreign exchange market turmoil, the fixed exchange rate system is also easy to incur hot money ① the impact , causing turmoil and confusion of international foreign exchange system . When a country's balance of payments to deteriorate, international hot money suddenly transferred from the country , in exchange for foreign currency , the exchange rate of the country in order to maintain boundaries , had to come up with the gold reserves in the market supply , causing a huge loss of gold and foreign exchange reserves drastically reduced.

①Hot Money

No specific uses of liquidity. It is the pursuit of the highest returns and lowest risk in the international financial markets rapid flow of short-term speculative capital. Its biggest feature is the short-term, arbitrage and speculation.

If after a sharp loss of gold reserves still can not keep the exchange rate, the country's last devaluation may take legal measures , so that the whole system of exchange rate regimes and capital extreme chaos and unrest. After a certain period of time after the foreign exchange market and the national monetary system in order to restore relative calm . Not restored within a period of relative calm before , import and export traders often hold the concept of ordering a single butt attitude , so that the termination of international trade exchanges halt the phenomenon in some program

History of the exchange rate regime of the RMB

The evolution of exchange rate of the RMB can be divided into the following phases:

(A) From 1949 to 1952 This phase of the exchange rate was mainly based on the relative price levels at home and abroad to develop (the price comparison method), and with changes in the relative prices of domestic and foreign continuously adjusted.

(B) From 1953 to 1972 the official exchange rate of RMB stick to the principle of stability, in the original exchange rate basis, adjusted with reference exchange rate published by the Western countries, moving away from the same price. RMB exchange rate in this period is characterized by relatively stable and not regularly adjusted, exchange rate policies adopted and methods of individual national currencies linked to the international level, only when a foreign currency depreciation or appreciation only when the corresponding adjustment of the RMB exchange rate of the national currency. From 1953 to the end of 1972, the RMB exchange rate basically stable, has remained at 2.46 yuan dollar, the RMB exchange rate against the pound only in November 1967 after a 14.3% depreciation of sterling exchange only transferred from one pound 6.89 yuan 5.91 yuan.

(C) from 1973 to 1980. In oil crisis of 1973 and the collapse of the Bretton Woods system, the Western countries generally adopted a floating exchange rate system, in order to maintain the RMB exchange rate is relatively stable, the use of the currency peg exchange rate system package of principle, based on the monetary package of changes in the average exchange rate used to determine the exchange rate (package pricing principles).

(D) from 1981 to 1993 the official exchange rate of RMB to implement double exchange rate system of internal trade and non-trade settlement price quotations in public. 1985, the abolition of internal settlement price, the reintroduction of a single exchange rate, the exchange rate for the dollar 2.8 yuan. After a few years, the RMB exchange rate should be gradually reduced, by the end of 1990, dollar 5.22 yuan. From 1980. onwards, the country gradually began to implement foreign exchange swap system, the formation of the official exchange rate and the foreign exchange swap market rates coexist track pattern.

E) On 1 January , 1994, the Government announced the implementation of a market-based, single, managed floating exchange rate system. Implementation of unification of exchange rates, the foreign exchange swap market, namely the exchange rate combined with the official quotations, keep a exchange rate.

5.2balance of international payments and capital mobility

Balance of international payments is a reflection of a certain period of all economic transactions of a country with foreign income and expenditure flows. BOP is the system records of country for trade in the process of economic and technological exchanges with other countries occurred, the actual dynamic made non-trade transactions and capital reserve assets, is an important tool of international payments accounting.

Current Account

Current account mainly reflects the transfer of real resources between a country and other countries, the balance of payments is the most important items. Often include goods (trade), services (invisible trade), financial capital and financial transfers.

Capital account (financial accounting)

Capital account reflects international capital flows, including long-term or short-term capital outflows and capital inflows.

BoP is the record of international transactions, so from each transaction and total borrowing from the point of view is always balanced. But the balance of payments due to prior international exchanges can not be balanced. Reflected in the BoP transactions actually have two: one is the autonomy of the transaction in advance, and the other one is the regulation of of Trading afterwards. Trade items is generally the former(Rei D., Zhao Y,2008).

	2009		2010	
	+	—	+	—
A.Current account	**14,846**	**11,874**	**19,468**	**16,414**
1goods	12,038	9,543	15,814	13,272
2 services	1,295	1,589	1,712	1,933
3 financial capital	1,086	653	1,446	1,142
4 financial transfers	426	89	495	66
B .Capital account (financial accounting)	**7,464**	**6,016**	**11,080**	**8,820**
1Capital account	42	2	48	2
2Financial account	7,422	6,014	11,032	8,818
Direct investment	1,142	799	2,144	894
Investment securities	981	594	636	395
Other investments	5,299	4,620	8,253	7,528

Derivative financial instrument	0	0	0	0
Reserve assets	**0**	**3,984**	**0**	**4,717**
C.Error	**0**	**435**	**0**	

Figure: balance of international payments of China(2009-2010)

Source: State Administration of Foreign Exchange Of China,

from:http://www.safe.gov.cn/

According to the analysis of Chinese BoP 2010, combined with China compared with the balance of payments 2009. General in 2010, the Chinese current account, capital and financial account showed double surplus, reserve assets continued to grow

So i will focus on the analysis of current account specific : 2010 Chinese current account continued to improve , surplus to GDP ratio was 5.2% , the ratio was essentially flat with 2009 , still significantly lower than in 2007 and 2008 's record high . The annual current account surplus of $ 305.4 billion , an increase of 17 percent over the previous year , GDP ratio was 5.2% , unchanged from 2009 . Trade surplus of 254.2 billion U.S. dollars of goods , services $ 22.1 billion trade deficit , revenue surplus of $ 30.4 billion , $ 42.9 billion surplus in current transfers . Now, let us look at the current account of the specific subjects :

(1) trade in goods in 2010 , China reached a record high trade volume of goods , but compared to 2009 , 2010 does not appear substantial growth of trade in goods , according to the international balance of payments statistics , goods trade surplus $ 254.2 billion , an increase of 2% over 2009 , which in 2010 Chinese exports amounted to $ 1.5814 trillion , an increase of 31 percent over the previous year ; imports totaled $ 1.3272 trillion , an increase of 39 percent over the previous year . Since China 2010 trade in goods , goods import growth > goods export growth , so in 2010 compared with 2009 , trade in goods of similar size .

(2) trade in services in 2010 , service trade income of China $ 171.2 billion , an increase of 32 percent compared to last year ; pointed out $ 193.3 billion of trade in services , an increase of 22 percent over the previous year ; deficit of $ 22.1 billion , down 25 %. 2010 China's service trade show the following characteristics: the overall size of trade in services continued to grow , and the trade deficit narrowed. Deficit mainly from transportation, travel, insurance services and proprietary rights royalties and licensing fees projects. Among them, the recent increase in tourism spending and Chinese national income increases, outbound tourism hot inseparable.

(3) . Revenue in 2010 , a substantial increase in China revenue surplus , the surplus $ 30.4 billion , an increase of 3.2 times over the last year . 2010 China to expand production scale external investment income was $ 18.2 billion . Meanwhile, in recent years, international labor exchanges close , more and more people choose to work abroad , in 2010 , China Overseas Workers labor income rose sharply, labor remuneration net inflow of $ 12.2 billion , an increase of 70 % compared to 2009 .

Reasons:

(A) Chinese economy savings over consumption , structural imbalances . For a long time , one of the main features of China's domestic economy is the low consumption and high savings. Chinese final consumption rate share of GDP from the 1980s, more than 62 % down to 52.1% in 2005 , the consumption rate also declined from 48.8% in 1991 to 38.2% in 2005 , reached the lowest level in history . Savings rate from 38.9 per cent in 2001 to 47.9% in 2005 , 5 years, the rapid growth of 9 percent. Insufficient consumption brings savings too high, and high savings brought about is the high lending and high investment . Under the Chinese consumer is not busy conditions, excess capacity high investment can only be formed by the release of exports , which led to a growing trade surplus.

(B) the implementation of China 's long-term export -oriented policies . Since the reform and opening up, to resolve conflicts of funds , shortage of foreign exchange and economic development , China has adopted a series of preferential policies to encourage exports .

(C) the country 's long-established incentives to foreign investors. Various preferential policies to encourage foreign investment so that foreign capital can be by way of joint ventures and direct investment into China . Foreign direct investment into foreign exchange inflows are not brought to a way to buy foreign capital goods , namely in the form of current account deficit of the outflow , but these foreign direct investment will bring in foreign exchange to simply sell China People's Bank , then in exchange for yuan to buy domestic capital goods investment products to further generate current account surpluses by exporting , resulting in a "double surplus " pattern.

After the unification of exchange rates , the yuan to implement a market -based , single, managed floating exchange rate regime , the foreign exchange swap market to develop into the foreign exchange interbank foreign exchange market, foreign exchange banks buy and sell foreign exchange differences , according to the central bank's balance provisions in the foreign exchange market traded freely , the RMB exchange rate is determined by market supply and demand , the formation of the RMB exchange rate market , the abolition of the official exchange rate , the central bank intervention in the magnitude involved in forex trading to foreign exchange fluctuations . RMB exchange rate on the foreign exchange market remained stable , external economic stability , exchange rate steadily. On 21 July, 2005 , China's RMB exchange rate formation mechanism reform. RMB exchange rate is no longer pegged to the dollar , choosing instead to form a number of major currencies, currency embrace the child , but change is calculated with reference to a basket of currencies RMB multilateral exchange rate index.

Now why should China abandon a fixed exchange rate regime away floating exchange rate system ? China is now nominally is one of " managed floating exchange rate regime ," but practiced essentially " manages the fixed exchange rate regime ." Fixed exchange rate regime pegged to the dollar , meaning that the RMB exchange rate is pegged to the dollar , which weakened the regulatory capacity of the RMB exchange rate . Therefore, it is not used in a purely floating exchange rate regime pegged to a basket of currencies instead , including the dollar / yen / euro , so that it can play the national autonomy, strengthen regulatory capacity . Of course , the pressure from a foreign country can not be ignored , the implementation of small amplitude floating exchange rate will help establish a good international image.

Capital mobility of China

The reason of a country capital outflows is the weak of its currency in the foreign exchange market, which caused currency devaluation and the increasing of the net exports of the country. The currency of a capital inflow country is strong, and the currency appreciation turns its trade balance into deficit.

In recent years, the Chinese Government's efforts to drive down the value of the RMB in the foreign exchange market in order to encourage its export industries. It includes a large number of U.S. government through the accumulation of foreign assets, including bonds to do so. By the end of 2012, China's total reserves of foreign assets has reached about $ 3.5 trillion. The U.S. government often oppose China's intervention in the foreign exchange market. Such policies depress the value of the yuan by making Chinese goods cheaper, which increases the U.S. trade deficit with China and hurt the competitiveness of U.S. producers imported products. Because of these effects, the U.S. government encourages Chinese government initiated with the full freedom of capital flows. But when a country's relaxation of capital controls, exchange rate stability, or it must give up independent monetary policy. And give up any one of these two macro management will become more difficult. At present, China is facing low unemployment and social security macro issues, the government has no ability to completely control the free flow of capital has brought instability and economic development. Therefore, China's capital controls.

Project	Process of transaction	process of exchange
Direct Investments Abroad of	Need to authorize the Commerce Department and other departments	need to review of foreign exchange risk and

China(outflow)	for approval.	examination of the source of foreign exchange funds .outflows after registration.
Investment for Securities(outflow)	Residents not freely traded securities abroad. The People's Bank of China to foreign financial institutions to buy bonds qualification. Local government can ‘t borrow from abroad.	Only with their own foreign exchange, can ‘t purchase foreign exchange.
Issue foreign bond (inflow)	Country Planning Commission and The People's Bank of China State Council for approval after approval.	Registration subject to regulations before issued debt bonds in foreign .Income must be repatriated country
Buy bonds foreign (outflow)	Only authorized by the People's Bank of China's financial institutions can buy bonds abroad.	Only with their own foreign exchange, can ‘t purchase foreign exchange.
Borrow money foreign (inflows)	Enterprises with foreign investment can get foreign borrowing according to law . Prior borrower qualifications	Borrow foreign debt must be registered, the principal and interest are not allowed to export.
Foreigners issue of the Securities and Exchange	Allow foreign investors to buy stocks in the territory. Prohibit foreign investors in the territory of shares outstanding	

Figure：Specific measures of Chinese capital controls

Source：“Capital Controls"

from：http://wiki.mbalib.com/wiki/资本管制

In favor of capital controls from the economy, there are two effects:(a) Prevent a large number of domestic capital flight, Serious impact on economic growth and sustainable development of the territory.(b) Prevent large numbers of foreign short-term capital, freely into the territory, the impact of the steady development of domestic economy and finance. Example: In order to reduce the impact of capital inflows and taken to limit inflows, easing outflows,The South Korean government opened the first short-term capital flows, but this result is that banks in Korea, a lot of companies to borrow short-term funds to do long-term foreign investment, resulting in the use of funds for a period not match, resulting in a debt crisis.

Capital controls also brings other benefits of China

So far, China is still in economic transition. Financial markets and other related financial institutions is still immature (rate of return between financial institutions in China and their exposure to risk is disproportionate), as most of the financial market risks assumed by the Government,Financial institutions often in the case of assume little risk, get high income. Development of financial market of China has made great strides,But in fact, this is an abnormal growth, which makes the development of the financial markets did not surface so good. Capital controls in large part to protect financial industry of China from external shocks.

Relaxation of capital controls may indeed promote to fill the gap of domestic savings and loan capital flows, to enable developing countries to leverage the power of foreign capital to achieve higher growth rates. But for many emerging Asian countries, needed to reform their fragile financial system, improved banking,， and supervising regulation first. If too simply open capital markets, unable to resist the fragile financial environment has serious impact on capital flows, will make the economic crisis. Established early in the Chinese financial market, such protection is necessary is necessary. In the case against external shocks, we can learn from the development experience of the financial markets of developed countries, to formulate appropriate laws and policies to promote the development of China's financial markets.If too simply open capital markets, unable to resist the fragile financial environment has serious impact on capital flows, will make the economic crisis. Established early in the Chinese financial market, protection is necessary also necessary.In the case of against external shocks, we can learn from the development experience of the financial markets of developed countries, to formulate appropriate laws and policies to promote the development of financial markets of China.

Disadvantages:

Capital controls are not long-term goal of developing countries; With the improvement in the level of economic openness, costs of capital controls also growing.

Production efficiency and production potential will be reduced, easy to produce corruption. These consequences will produce uncertainties could cause serious economic crisis.

Conclusion: From the beginning of reform and opening up, the development of China's financial markets thanks to capital controls.Because China is on the period of the transition in the economic system.Financial institutions and financial markets from scratch,In the initial of growth, China need to control for ensure their development.Development of China's financial markets also proved protective effect of capital controls on the China's financial market.However, while affirming capital controls to promote the development of China's financial market,We must clearly recognize that the growth in the financial industry under the control of a lack of effective ability to withstand risks, but also in the protection and development of the industry, will lead to low efficiency.In the case of economic globalization, China's capital account gradually freely convertible, how to regulate and supervise the behavior of financial institutions, and promote the healthy development of the financial markets, and enhance the ability to resist risks.

China's foreign exchange reserves of U.S. dollar

Source:Phoenix Financial

From: http://finance.ifeng.com/

China's gold reserves .Unit: Ten thousand ounces

Source:Phoenix Financial

From: http://finance.ifeng.com/

Status of China's foreign exchange reserves

To April 2012, China's foreign exchange reserves accumulated up to $ 3.31 trillion, surpassing Japan ranked first in the world.Increasing foreign exchange reserves, on the one hand reflects the Chinese economic and trade have good momentum of development, the growing strength of the economy; hand also reflects China plays a greater role in the international economy. But the high foreign exchange reserves also produced a series of problems and risks.

The main source of China's foreign exchange reserves.

Sources of China's foreign exchange reserves are mainly two aspects: one aspect is the balance of payments current account of income; Another aspect is the inflow of capital and financial projects. Firstly, it is formed from the inflow of foreign exchange reserves formed by the current surplus in international trade and non-trade. It is relying on China's exports of services and goods to form, so it's risk is relatively small.

Reasons for the rapid growth of China 's foreign exchange reserves

(A) China has implemented policies to encourage exports . Since 2005, the main features of China 's foreign trade becomes a "export more, import less ." China 's international trade surplus continued to increase . . In the international market is flooded with "Made in China " a variety of products . Meanwhile, under the pressure of RMB appreciation , most companies have chosen ahead of exports , which also led to a large number of surplus appears(Zhu M.N, Chen X.,2009).

(B) China continues to attract a lot of foreign investment into China market . Because of China's vast market and the strong purchasing power , China has become one of the world's largest foreign capital inflow country . First quarter of 2012 , the capital and financial account surplus $ 49.9 billion , of which direct investment inflow of $ 44.1 billion net . Thanks to the optimization of industrial structure in China , China to attract foreign investment momentum.

(C) the inflow of hot money . Due to the impact of RMB appreciation expectations , a large number of international hot money through legal or illegal ways into the Chinese market . Such as: direct investment. International short-term capital through direct investment in the mainland market , resulting in RMB

The risk of foreign exchange reserves is high

(A) the total amount of foreign exchange reserves is growing faster , it’s difficult to manage . China 's foreign exchange reserves is the most important form of international reserve assets. At present , China 's foreign exchange reserves as of April 2012 was $ 3.31 trillion , an increase of about 110 %. Since 2011 , we can see that China's total foreign exchange reserves have been increasing . According to the international traditional standards, a country's foreign exchange reserves should be based on a country's imports of three months or about 40% of the debt balance standard to measure . China 's foreign exchange reserves have been much higher than this standard.

(B) the currency structure of China 's foreign exchange reserves imbalance risks. In China 's foreign exchange reserves , the dollar is the biggest proportion . Based on IMF official currency reserves constitute a database to speculate that the proportion of China 's foreign exchange reserves in U.S. dollars accounted for 70 percent , accounting for about 25% of the assets of the euro , British pound , Japanese yen and other currencies accounted for about 5%. Large foreign exchange reserves in U.S. Treasury bonds held in the form of investments resulted in single, putting all their eggs in one basket , so that China 's foreign exchange reserves at risk of devaluation , if the dollar will lead to a drastic shrinkage of China 's foreign exchange reserves(Yong Y.,2010) .

(C) the opportunity cost of China's foreign exchange great . China 's foreign exchange reserves, mostly in dollar-denominated assets , particularly U.S. Treasuries safety factor , such as government bonds is relatively high, but less income areas . Less than 5% of the income of China 's foreign exchange reserves to buy U.S. Treasury bonds , and the money transferred to U.S. companies , and they use the money to invest in China 's income at least 15%. This is equivalent to low-interest loans provided by China to the United States . Which appeared in the American consumption of Chinese people save money situation . If the money to buy U.S. Treasury bonds to invest in China 's domestic market , it can yield around 10 %. High level of foreign exchange reserves to limit the yuan to invest in the domestic or international markets , to some extent , it is not conducive to the development of China's domestic enterprises and economic benefits of growth.

(D) the inflation pressure. China has a high level of foreign exchange reserves , excessive quantity of money , thus contributing to the Chinese domestic inflation crisis. This part of the Chinese renminbi because the corresponding absorption of foreign exchange and commodities have been exported to invest abroad, the Chinese market is flooded with a large number of yuan. Also, if China 's foreign trade surplus frequently , meaning that there is nothing out of part of the RMB . This led to a plethora of yuan chasing too few goods

5.3 Critical remarks on the Chinese exchange rate policy And reply by the PBC

Now the RMB exchange rate issue has evolved into an international issue, no longer only a Chinese problem. In recent years, the RMB exchange rate issue has evolved into an important issues of bilateral relations with China. Then the major pressure comes from the United Statues and the Europe. The academic community has a great interest in this phenomenon, and the opinions are also varied.

There are a lot of criticism of the RMB exchange rate. Some scholars think that it should make the RMB exchange rate appreciate, at least unlimit it, so that the RMB exchange rate link to the marktet directly to allow RMB to become a market-based currency.

February 2003, on the G7 meeting, the Japanese let you ask follow the 1985 Plaza Accord, to revalue its currency, on the grounds that the yuan is undervalued

The Schumer bill (2003): If Chinese government do not adjust RMB exchange rate in the six months, the United States government would increase 27% tariff of the imported Chinese goods.

2007, The EU expressed: The root caused the global economic imbalances is not in Europe, and China should bear the primary reponsibility of it Because Chinese account usually has large number of surplus..

January 1, 2010, Krugman published in the New York Times: China must allow the RMB to appreciate significantly In the March of the same year Krugman said the underestimation of RMB leads to the loss of at least 1.4 million American jobs during the financial crisis. . He supported US protect itself from China, and claim US Treasury to declare China as a currency manipulator.

February 3, 2010, Obama stated to take a tough stance on the RMB exchange rate, and also asked China to open markets for US expand exports.

In the October of 2011, the United States passed the 2011 currency exchange rate surveillance reform law which aimed at China to accelerate the appreciation of RMB.

In fact, a large part of the pressure on the RMB is for political reasons

1 It would find an excuse to impose trade protection for the United States and make China to bear the cost of external economic imbalances.

2. It oppress RMB appreciation and make exchange rate liberalization which could fully open the Chinese capital market.

3.It can suppress China

In this regard, China's new exchange rate policy stressed that China will reduce concerns about the management of the RMB against the U.S. dollar, replaced by a concern of RMB against a basket of currencies which would include all the major currency trading partners of China.

The central bank also launched a pilot program to allow Chinese enterprises kept part of the foreign exchange earnings abroad.Previously it has been asking them to hand all the foreign exchange earnings to the country in order to convert the majority of overseas revenue into RMB. Last year, Beijing has allowed cross-border RMB trade settlement, which aims at breaking China's excessive dependence on the U.S. dollar.

China has restricted the freedom of capital inflow and outflow, but it is worth noticing that in recent years, the central bank gradually relaxed restrictions.

The central bank claimed it would allow foreign financial institutions to invest

Chinese inter-bank bond market with the RMB accumulated overseas.This is the first initiative that allow the outflow RMB re-invest into China's capital market.

The U.S. Treasury has completed its regular semi-annual currency report recently. The report aims to examine whether U.S. trading partners to increase the trade surplus by manipulating the exchange rate. As expected, the U.S. Treasury Department highlighted the Chinese. It once again complained that RMB is undervalued, but it is no longer accuse the Chinese government of manipulating its currency, which in order to avoid triggering an automatic penalty mechanism against China.

Under the pressure of relaxing exchange controlling from the international community, China make the trading price of the RMB exchange rate floating range doubled in the March of 2014.

In the report, the U.S. Treasury also pointed out that expanding the trade floating range bring the intervention and let the market play a greater role in determining the RMB exchange rate for China. In order to realize this opportunity, China should avoid intervention during the RMB exchange rate within the floating range.

Chinese Vice Finance Minister Zhu Guangyao Tuesday (May 13,2014), said the RMB exchange rate fluctuations reflect market demand, the direction of the RMB exchange rate policy is "right." He said China is determined to push forward the reform of RMB exchange rate mechanism; while China also pay close attention to gradually withdraw U.S. quantitative easing (QE) policy(Yang J.M.,2011). Since the 2005 revaluation, the yuan has risen nearly 33%. At present, China is adapting President Xi Jinping called "new normal", tolerance economic slowdown.

6 The future of CNY in the world arena

This will continuously promote the slow appreciation of RMB exchange rate in the coming years, and the limitation of the free convertibility of RMB, investment and other aspects will be further extended simultaneously. The cancellation of the 20,000 upper limit of RMB convertibility will happen in the near future, which increases the preference of RMB among investors.

I believe the reason that central government decided to "improve the market-oriented mechanism of RMB exchange rate" and established a decisive role of market comes from following macro consideration.

Internally, this strategy could force upgrading of Chinese industry. Many export enterprises of small and medium size open foreign markets depending on the long-term intervention of RMB exchange rate, the preferential export policies and low value-added products. However the advantage of exporting cheap goods no longer exists since new emerging countries could provide similar goods. The market-oriented RMB exchange rate will result in the slow appreciation of RMB, forcing small and medium sized export enterprises to accelerate upgrading and produce more high value-added products, in order to face the international competition in market.

This will continuously promote the slowappreciation of RMB exchange rate in the coming years, and the limitation of the free convertibility of RMB, investment and other aspects will be further extended simultaneously. Conversion of the upper limit of 20,000 yuan a day cancellation also not far off, which makes many people, including the author's increasingly popular yuan, who have invested more than that.

The reason why the central government should "improve exchange rate of the RMB formation mechanism of the market," a decisive role in establishing the market, I believe the following macro to conside：

Making industrial of China upgrading and restructuring. Many small and medium export enterprises long-term means of central intervention RMB exchange rate, preferential export policies and low value-added products, to open foreign markets. But now the same goods in emerging countries and Chinese goods.

Cheap export advantage is no longer the RMB exchange rate market will make the

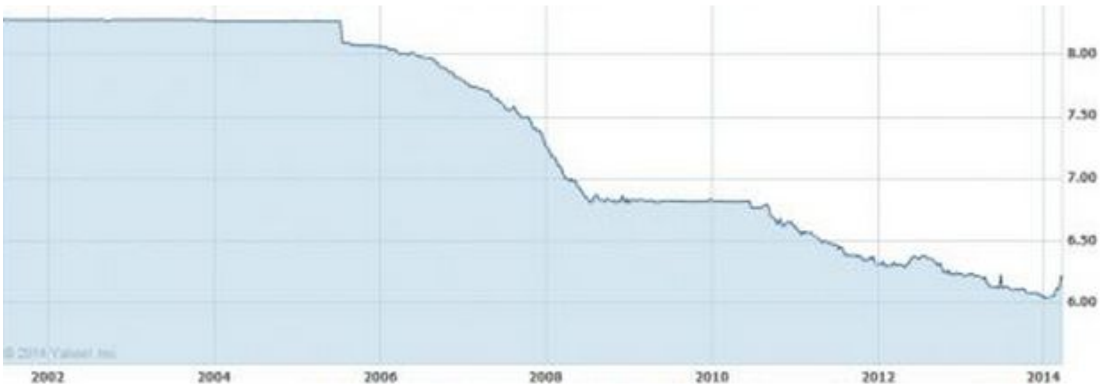
RMB will continue to slowly appreciate, making Chinese small and medium export enterprises face international competition in the market, accelerate the transformation and upgrading, production of high value-added goods.

Externally, this will also help to enhance China's influence. Many countries, such as United States and Japan, have applied quantitative easing policy(He Z.Q.,2012), which could stimulate the economy by devaluating its own currency. Therefore, QE will have some side effects such as currency devaluation, rapid withdrawal of foreign investment and financial market turmoil in new emerging countries or even in global scale. As the second largest economies, China prefers to promote the formation of market-oriented RMB exchange rate to achieve a steady appreciation of RMB. This could prove to the world that China is not a "trouble maker", but a big country with responsibility instead.

Externally, this will also help to enhance China's influence. US-Japan multi-national implementation of quantitative easing(Mackowiak B.,2003), devaluation of the national currency，in order to stimulate the economy, triggering condemnation countries. China as the world's second largest economy, if the exchange rate of RMB has depreciation, will lead his country in addition to the accused, and the United States, but also may lead to currency devaluation, so to speed up the withdrawal of foreign investment, as well as emerging countries and even triggered the global financial market turmoil. Chinese government to promote the RMB exchange rate market, so that the steady appreciation of the RMB, the manufacturer can prove to the international crisis, China is a responsible big country.

With the steady appreciation of RMB exchange rate, people could make investment and eventually be able to profit with RMB. This could strongly enhance the confidence of people who holds RMB and the willingness of them to use and reserve RMB. Of course, to "improve the market-oriented mechanism of RMB exchange rate" does not equal to a rapid appreciation of RMB. Although United States and the European government asked a 10% or even a 20% increase of RMB exchange rate as soon as possible, Chinese government should stay on a gradual but not radical strategy to adjust exchange rate of RMB. Therefore, I predict that, in order to make sure that China is able to both obtain the most benefits and buffer the affect to economy from RMB appreciation, the exchange rate of RMB will appreciate in an annual rate of 2% in at least the following 5 years. Meanwhile, the limitation of exchange and investment with RMB will be revoked gradually(Michael H.,2014).

Steady appreciation of the exchange rate of RMB, foreigners holding yuan to invest, be able to profit, in order to increase the confidence of global investors hold the yuan, prefer to use and reserve yuan. Of course, "improve the RMB exchange rate formation mechanism of the market" does not mean that the RMB will quickly appreciate. Although the United States and Europe will soon ask the Chinese renminbi exchange rate increased by 10% or even 20%, but the Chinese government to adjust the RMB exchange rate policy should be gradual rather than radical. The Chinese government is more willing to let the yuan slowly appreciate. Therefore, it is expected the RMB will be the next five years at a rate of at least about 2% per year of slow appreciation, so China can reap the benefits of appreciationof RMB, but also to appreciate too cushion the impact on the economy, at the same time, the exchange of RMB, investment the limit will be withdrawn step by step.



Figure：Exchange rate of USD against RMB (CNY) .Source:from

http://www.finfacts.ie/irishfinancenews/article_1027485.shtm

The impact of appreciation of RMB exchange rate to Chinese economy

The positive impact to Chinese economy from RMB appreciation

The impact of exchange rate change will affect many aspects of economy. The positive effects mainly come from the following three aspects.

First, appreciation of RMB could lower down the import costs by reducing the price of foreign products and materials, further stimulating import.

Second, appreciation of RMB could improve the environment of attracting foreign investment, and increase the profits of those foreign-funded enterprises that have already invested in China as well. The enhancement of investor's confidence could further attract more foreign investment in to Chinese market. The proportion of indirect investment will further increase too.

Third, appreciation of RMB helps to reduce the external debt pressure by reducing principle and interest. The lower amount of domestic currency to pay off the debts reduces the debt pressure to some extent.

Fourth, appreciation of RMB promotes the internationalization of RMB, which will reduce trading confliction. From long-term view, appreciation of RMB reflects the increase of strength of economic and comprehensive national power of China. The international society will trust RMB more as well. Thus, appreciation of RMB is able to promote the usage and acceptance of RMB by international society, and further promote the process of internationalization of RMB. In next chapter, we will discuss whether RMB could become an international currency or not. At last, appreciation of RMB meets the benefit demand of major trading countries and regions, which may attenuate trading conflict between them.

Impact of appreciation of RMB for Chinese economy:

(A) the appreciation of the exchange rate of RMB favorable impact on Chinese economy.

Effect of exchange rate changes on the economy is multifaceted. Favorable impact of exchange rate appreciation of RMB mainly in three aspects:

First, increase stimulate imports, the appreciation of the exchange rate of RMB, the price of consumer goods and production materials abroad cheaper than before, reducing the cost of imports;

Second, it helps to improve the environment for attracting foreign investment , the appreciation of the RMB exchange rate , make foreign investment in China has increased profits , thereby enhancing investor confidence , prompting further additional investment or reinvestment ; RMB exchange rate appreciation will attract a large number of foreign investment into China 's capital market , will further increase the proportion of indirect investment .

Third it helps to reduce the external debt pressure to reduce principal and interest. Rise in the exchange rate of RMB, the number of domestic currency to repay foreign debt currency needed to reduce, to a certain extent, reduce the external debt burden.

Conducive to the internationalization of the yuan, reduce friction of trade. RMB in the long run, rising economic strength of China, comprehensive national strength continuously improve performance. With the upgrading of China's economic strength, the international community's confidence in the renminbi will gradually increase. Therefore, the RMB appreciation can promote the use of the renminbi, the yuan gradually accepted by the international community to accelerate the process of internationalization of the RMB. The next chapter we will discuss the RMB can become an international currency. Meanwhile, the interest of the international community will meet the needs of major trading countries or regions, to ease trade frictions between them.

Negative impacts from appreciation of exchange rates of RMB

First, appreciation of RMB will inhibit export because of the increasing cost of export. In the circumstance that the international market prices remain stable, profit decline will severely affect the enthusiasm of export enterprises. If export enterprises raise the prices in order to keep certain profit, it will decrease the international competitiveness of the exported products, which further hurt the expansion and occupancy of their products in international market. Also, appreciation of RMB will be harmful to the international competitiveness of the market price of Chinese labor-intensive exports.

Second, appreciation of RMB will affect the stability of financial market. On the capital market, the international hot money is mostly active. These funds are large-scale, fast flow, and strongly profit seeking, which makes them the potential factors to lead to fluctuation of financial market. Recently, the situation that Chinese financial regulatory system needs to be further improved and financial market development is still lagging behind will exert bad influence, such as monetary and financial crisis, to the sustained and healthy development of Chinese economy, if a large number of capitals get introduced into capital market in a short period of time.

Third, appreciation of RMB will affect the effectiveness of monetary policy. Due to the appreciation pressure RMB exchange rate is facing, central bank has to buy a lot of foreign exchanges in order to maintain the stability of RMB exchange rate, which leads to the corresponding increase of basic currency that has been put into circulation in the form of foreign exchange reserve. On the surface, the money supply continues to grow, but the difference came from a low supply structure of capital efficiency, which eventually affects the effectiveness of monetary policy.

Fourth, appreciation of RMB will increase employment pressure. Recently, new employment opportunities mainly come from export and foreign-funded enterprises in China. Appreciation of RMB inhibits exports, and eventually affects employment. As for the extremely bad situation of employment in China currently, appreciation of RMB could make it even worse in the future.

(B) the adverse effects of appreciation of RMB for economy of China.

First inhibiting export growth after the appreciation of RMB, business costs of export increased accordingly. In the case of international market prices remain unchanged, the decline in export profits will seriously affect the export enterprises enthusiasm;If the export enterprises to maintain a certain profit and raise prices, it will undermine the international competitiveness of export products, is not conducive to continuing to expand and improve export products in the international market share. the appreciation of RMB would hurt the international competitiveness of large number of Chinese market price of labor-intensive exports.

Second affect the stability of financial markets. On the capital markets , the international hot money are mostly active , these funds large-scale, fast flow, seeks profit and strong, is the potential for the financial market turmoil. In the case of financial regulatory system of China needs to be further improved, financial market development is lagging behind, a large number of short-term capital through various channels.The pursuit of profit, easily lead to monetary and financial crisis will adversely affect the sustained and healthy development of China's economy.

Third,influence the effectiveness of monetary policy. Due to the appreciation of the RMB exchange rate is facing pressure to maintain the basic stability of the RMB exchange rate, forcing the central bank in the foreign exchange market to buy a lot of foreign exchange, so that the foundation put money in the form of a corresponding increase in foreign exchange. On the surface, the money supply continues to grow, but the difference was caused by low supply structure of capital efficiency, affecting the effectiveness of monetary policy.

Fourth， increasing employment pressure. Due to the current China provide new employment opportunities are mainly export enterprises and foreign-funded enterprises, RMB appreciation will inhibit or hit exports, will eventually affect employment. Under China's current employment situation is extremely serious situation, the appreciation of the RMB exchange rate will likely worsen the employment situation.

7.Can the CNY become a currency of international rank?

Will the CNY become a world-wide currency?

Ever since the reform and opening 30 years ago, Chinese economic has been developing rapidly and impressively. China has become a more and more important country in a multipolar world because of the improving comprehensive national power and its rising international status. RMB, as followed, has an increasing world-wide function. Mudell said in 2030, RMB is likely to become the world's third most important currency instead of Japanese yen. (Source from Chinanews.com 9.2006) However, I don't entirely agree with this point of view.

(1) For a currency to become world-wide functional, the country which issues the currency has to be economically powerful and occupy a master position in international economy. Today, Chinese economy has a tremendous increasing development, ranking the third in the world. There's no doubt that China is powerful and will become more powerful in the future. RMB has the potential and ability to complete multi-functions as a world-wide currency, such as international payment, international purchase and global transfer. However, as an undeniable fact, The GDP per capita of China is still below the world average level. RMB only served as an Asia circulating currency in financial crisis. As a conclusion, although RMB has the potential to become a world-wide currency, there's still a long and difficult way to go.

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(2) It is essential for a world-wide currency to have considerable monetary stability. Hence, the country which issues the currency must have sufficient gold

reserves to maintain the currency stability. China has a gold reserve of 1054.1 tons, ranking the sixth in the world. China has the biggest foreign exchange reserves in the world today, but the gold reserves are far below the global average. Although China has fairly amount of gold, the gold reserves only takes up 1.6% in all the exchange reserves. China has been working a lot on the fact and progress has been made. Lacking obvious improvement has become an obstacles in making RMB a world-wide currency.

WORLD OFFICIAL GOLD HOLDINGS

International Financial Statistics, April 2013*

		Tonnes	% of reserves**
1	United States	8,133.5	75.1%
2	Germany	3,391.3	72.1%
3	IMF	2,814.0	1)
4	Italy	2,451.8	71.3%
5	France	2,435.4	69.5%
6	China	1,054.1	1.6%
7	Switzerland	1,040.1	10.0%
8	Russia	976.9	9.5%
9	Japan	765.2	3.1%
10	Netherlands	612.5	58.7%

Source： from sufiy， Tuesday July 23, 2013

3） It a country wants its currency to function as international payment, it has to achieve this through international agreements. As the history tells us, a currency becoming world-wide functional is conditional, unstable and always along with contradictions and crises.

(4) As we discussed in the last chapter, the majority of capital flows in China are under controls of different levels(Chen M.J.,2003). Stocks and bonds are mainly open to institutional investors, while currency markets and derivative markets are generally not accessible for non-residents. Theoretically, convertibility is the key for a currency to become world-wide functional. The existing capital controls of

China limits the access to RMB assets for non-residents. Structures of capital controls largely limit the acquisition and use of RMB assets for non-residents. This limitation is reflected in both accessibility and scale. At the same time, the accessibility and scale for residents to use RMB aboard are also limited.

（5）Undeveloped financial markets and imperfect financial regulation.

For a currency to become world-wide functional, the currency issuing coutry must have a financial market which has sound systems, great size of transaction and enough openness(Glick,R. and Hutchison,M.,2009). The domestic stock market, bond market, foreign exchange market, the commodity future market and gold market started late. Although they have a rapid development, generally speaking, they are still in their infancy and with a lot of aspects lagging behind. For example, the development of the bond market structure is unbalanced, proportion of corporate bonds is low, foreign exchange markets are extremely underdeveloped, trading is not lively enough, and trading volume is negligible compared to the total economy of China. Currency internationalization will increase the financial risk for a country because it allows foreign holders to acquire a lot of that currency in a short period of time. Once a problem occurs in even one part of the economy, it will become a target for international speculators, leading to the financial crisis. Hence, the government has to have a strong ability to guard the financial risks. China's financial regulatory system is still in its infancy. It takes time for the newly established authorities to improve their functions for management and supervision. So far, they are far from being able to cope with the risks brought by the internationalization of RMB.

In my opinion, if China wants RMB to become an international currency, the government should promote RMB use in trading and financial transactions. Regionalization of RMB is also a good choice. Other steps are also wise choices, for example, issuing RMB bonds (government and corporate bonds), encouraging RMB as the denomination currency in China Free Trade Area (FTAS①), and reaching currency swap agreements with other countries both bilaterally and multilaterally to use RMB for payment. China should also reach agreements with other East Asian countries to use RMB in regional financial systems.

In the long run, the government should further promoter RMB use in certain regions(Ma G.,Mc C.,2007). Regionalization of RMB would be an unavoidable step towards the internalization. At the same time, domestic policy on the internationalization of RMB has an important role. These policies include achieving full convertibility of RMB, opening up of China’s financial markets, achieving the flexibility of RMB exchange rate, strengthening the construction of China’s financial system, further developing of the domestic currency, bond and equity markets, building up an advanced billing system, and establishing a better legal system and so on. RMB internationalization cannot be achieved quickly, and instead it takes time. RMB convertibility is closely related to capital account liberalization, while the capital controls of China hinder non-resident-investors for RMB assets purchase. Chinese government has always been very cautious on financial opening. In the past decade, the capital controls have loosened slightly but obviously, leading to capital account convertibility in a ordered and progressive way. Generally speaking, liberalization and opening of Chinese capital account follows certain rules, which is the opening of long-term capital flows goes first, followed by the short-term capital flows, and opening of investment goes first, followed by the portfolio investment and derivative markets.

①FTAS：Across the globe, there is an expanding network of free trade agreements (FTAs). High-quality, comprehensive free trade agreements can play an important role in supporting global trade liberalisation and are explicitly allowed for under the World Trade Organization (WTO) rules.

FTAs can cover entire regions with multiple participants or link just two economies. Under these agreements, parties enter into legally binding commitments to liberalise access to each others' markets for goods and services, and investment. FTAs also typically address a range of other issues such as intellectual property rights, government procurement and competition policy.Source：http://www.dfat.gov.au/fta/

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